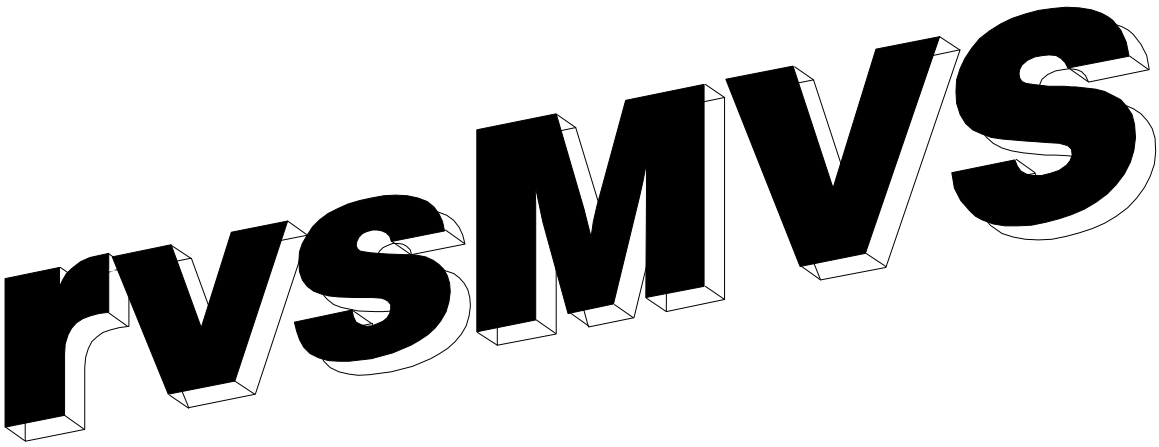
VOLKSWAGEN

T · · Systems · · ·



Release 04.08.00

Installation Manual

2009/03/05

This documentation is valid for rvsMVS release 04

For rvsMVS the following documentations are provided:

rvsMVS Benutzer Handbuch (german)
Manual for rvs Users

rvsMVS User Manual (english)
Manual for rvs Users

rvsMVS Operator Handbuch (german)
Manual for rvs Operator

rvsMVS Operation Manual (english)
Manual for rvs Operator

rvsMVS Messages and Codes (english)
Overview about rvsMVS messages and abend codes

Distribution information will be given kindly:

T-Systems Enterprise Services GmbH
Corporate Customers
Silke Peigert
Vertriebsassistenz - rvs
Goslarer Ufer 35
10589 Berlin
Tel. +49-30-3497-1165
Fax +49-30-3497- 4139
Email mailto:Silke.Peigert@t-systems.com

Technical information will be given kindly:

T-Systems Enterprise Services GmbH
rvs Systems
Goslarer Ufer 35
10589 Berlin

Tel. +49-30-3997-1777
Fax +49-30-3497- 4139
Email mailto:rvs-service@t-systems.com

© Copyright 2009 by Volkswagen AG / T-Systems / gedas deutschland GmbH

Contents

1. Introduction 5

2. Installation Requirements 5

2.1. Software Requirements 5

2.2. Hardware Requirements 5

2.3. Licensekey 5

3. Generations, Definitions within Operating System and Control Unit 5

3.1. Definition for BSC component of rvs 5

3.1.1. BSC lines without autodial function 5

3.1.2. BSC lines with autodial function (Interface V.25) 5

3.1.3. BSC lines with autodial function (Interface V.25bis) 5

3.2. Definitions for SNA component of rvs 5

3.3. Definitions for X25 component of rvs 5

3.3.1. Definitions for using the X.25 network via XOT 5

3.3.2. Definitions for using the X.25 network via NPSI 5

3.3.3. Definitions for using the ISDN network 5

3.4. Definitions for the SNA LU6.2 component of rvs 5

3.5. Definitions for TCP/IP component of rvs 5

3.6. Definitions for FTP component of rvs and rvsLight 5

3.7. Definitions for rvsWIN stations 5

3.8. Definitions for remote operating function 5

4. rvs System Files 5

4.1. rvs Load Library 5

4.2. rvs Controldataset 5

4.3. rvs Logdataset 5

4.4. rvs Tables Dataset 5

4.5. rvs Key Data data set 5

4.6. rvs Permission Tables Dataset (ULS feature only) 5

4.7. Datasets for USP feature only 5

4.8. rvs Jobs Dataset 5

4.9. rvs EXEC Dataset 5

5. Steps for installation of rvsMVS 5

5.1. Installation Guide from the Compact Disk 5

5.2. Content of Compact Disk: 5

5.3. Creation of module DF067A - Macro rvsDYN 5

5.4. Change of dataset names within Tables file 5

5.5. Creation of rvs Control Dataset 5

5.6. Creation of rvs Log Dataset 5

5.7. Modification of the rvs Tables file 5

5.8. Installation of the rvs ISPF panels 5

5.9. Creation of rvs Key Data dataset 5
5.10. Installation of the Security Library Data dataset 5
5.11. Creation of rvs Permission dataset 5
5.12. Creation of USP datasets 5

6. Description of the Tables Dataset 5

6.1. rvs Start Parameter 5
6.1.1. Example for definitions to support more X.25 multi channel links 5
6.2. rvs Stations Table 5
6.2.0. Subset 0 (general parameters valid for all stations) 5
6.2.1. Subset 1 (valid for BSC Entries) 5
6.2.2. Subset 2 (valid for SNA Entries) 5
6.2.3. Subset 3 (valid for station entries using ODETTE FTP) 5
6.2.4. Subset 4 (valid for X.25/XOT Direct Entries) 5
6.2.5. Subset 5 (valid for LU 6.2 stations) 5
6.2.6. Subset 6 (valid for TCP/IP Direct Entries) 5
6.2.7. Subset 7 (valid for FTP stations) 5
6.2.8. Subset 8 (valid for Indirect Stations = VIA entries) 5
6.2.9. Subset 9 (valid for BSC Line Entries) 5
6.2.10. Subset 10 (valid for local Virtuel Stations = TYP=VIRT entries) – with ULS feature only 5
6.2.11. Examples of a Stations Table 5
6.3. Special Transmission Protocols (rvs Program Profile Table) 5
6.4. Definition of rvs Sessions Table 5
6.5. JCL Member for Copy Jobs 5
6.6. Control of rvs Messages 5
6.6.1. Control of Messages for Console and remote Operating 5
6.6.2. Additional SYSOUT protocols 5
6.6.3. Definition of "non-deletable" messages 5
6.7. Automatically executed rvs commands 5
6.8. RMOP PF Keys 5
6.9. rvs Procedures and JOBS 5
6.9.1. rvs Start Procedure 5
6.9.2. Overview on rvs Transmissions 5
6.9.2.1. PDF0002A (obsolete) 5
6.9.2.2. DF078B 5
6.9.3. Deleting old entries from the rvs Control Dataset 5
6.9.4. Saving and Recovery of the rvs Controldataset 5
6.10. JCL Member for failing automatic Jobstart 5
6.11. Code Translation 5
6.12. Users and Permission Members in Permission Table 5
6.12.1. Users Table Member 5
6.12.2. Permission Table Members 5

7. Running Installation Tests 5

7.1. Start of rvs Monitor (Procedure PDF0001A - Alias MONITOR) 5
7.2. Transmission of Datasets 5

8. Special Functions (Procedures) 5

8.1. Using BSC Line(s) as Backup for SNA 5
8.2. rvs Trace 5

8.2.1. Trace Output 5
8.2.2. Start and Stop of rvs Trace 5
8.2.3. Format of BTAM Trace (BSC lines) 5
8.2.4. Format of VTAM Trace (SNA sessions) 5
8.2.5. Format of LU6.2 Trace 5
8.2.6. Format of TCP/IP Trace 5
8.2.7. Format of FTP Trace 5

9. rvs Features 5

9.1. Feature Architecture 5

9.2. Partioned Data Set (PDS) Transfer 5

9.3. External Compression 5
9.3.1. 2 Steps to Prepare the Use of External Compress Feature 5

9.4. External Security 5
9.4.1. 7 Steps to Prepare the Use of External Security Feature 5

9.5. User Level Security (ULS) - step-by-step instructions 5
9.5.1. Introduction 5
9.5.2. 10 Steps to Prepare the Use of ULS (User Level Security) Feature 5
9.5.3. Install and configure rvsMVS as „normal“ rvsMVS 5
9.5.4. Add new licence key with Components ‚C‘ ‚D‘ ‚E‘ 5
9.5.5. Exchange information with your partner stations 5
9.5.6. Change station table 5
9.5.7. Create new PDS for user and permission information 5
9.5.8. Add new DDName in Monitor Jobstart JCL-Program 5
9.5.9. Add new DDName in DF080A JCL-Programm 5
9.5.10. New commands on remote operator console 5
9.5.11. Send und Receive Scenario 5
9.5.12. Error Codes 5
9.5.13. ULS Configuration Example 5

9.6. User Separation (USP) - step-by-step instructions 5
9.6.1. Introduction 5
9.6.2. Installation 5
9.6.3. Configuration 5
9.6.4. Work with USP Panels 5

10. Appendix 5

A. rvs User Exits 5

A.1. Authorization Exit DFUX001 5

A.2. rvsWIN Exit DFUX002 5

A.3. Accounting User Exit 5

A.4. Job Submit Exit DFUX003 5

A.5. Identification User Exit 5

A.6. ODETTE FTP User Exits 5

B. Description of the rvs controldataset record (KDRECORD) 5

C. Description of accounting information 5

D. rvs statistics 5

D.1. General Information 5

D.2. Prerequisites 5

D.3. Job to gain the basic data for the statistics 5
D.4. Station Activity Program 5
D.5. Line Activity Program 5
D.6. Legend of rvs statistics 5
E. Example for an extended rvs Start Procedure 5
F. Reference Utility (program DF076A) 5
G. Using the 'Remote Operating Function' 5
H. rvsMVS Tables 5
H.1. rvsMVS Program Profile Table (only used for the BSC component) 5
I. Key Data Utility (Program DF054K) 5
I.1. Introduction 5
I.2. rvs Key Data dataset 5
I.3. Maintenance of the key management 5
I.3.1. Overview 5
I.3.2. Creation of rvs Key Data dataset 5
I.3.3. Initialize Key Datasets (VSAM) 5
I.3.4. Generate a key pair of your own 5
I.3.5. Import your own key pair to the key management 5
I.3.6. Import a public key of your partner 5
I.3.7. List all keys of the key management 5
I.3.8. Export all keys from the key management to a sequential file 5
I.3.9. Import keys from a sequential file to the key management 5
I.3.10. Delete key from the key management 5
I.4. Detailed description of function Key Data Utility (Program DF054K) 5
I.4.1. Function GENKEYS 5
I.4.2. Function KEYS 5
I.4.3. Function LIST 5
I.4.4. Function EXPT 5
I.4.5. Function IMPT 5
I.4.6. Funktion ADMN 5
I.5. Return codes of DF054K 5
I.6. DF054K Messages: 5
I.7. Key Data record description 5
Index 5

1. Introduction

rvsMVS is a file transfer system. Datasets can be interchanged between a computer where rvsMVS is installed and other computers where rvsMVS or other (rvs compatible) products are installed (see below).

The rvs software allows to transmit any sequential or partitioned dataset (independent of record length, block length and record format) from one computer to another, whilst the completeness and correctness of the transmission are monitored by the software. Restrictions for the datasets to be transmitted may exist if the remote side has not installed rvsMVS.

rvsMVS includes seven components for support of different line procedures:
- BSC (for switched or leased BSC lines)
- SNA (using the normal SNA network) Note that connections between two hosts require INN links, this means a leased line connection)
- LU 6.2 (using the normal SNA network). This component works with the "ODETTE File Transfer Protocol".
- X25 (using the X25 network). This component works with the "ODETTE File Transfer Protocol".
- X25 (using the X25 network via XOT). This component works with the "ODETTE File Transfer Protocol".
- TCP/IP. This component works with the "ODETTE File Transfer Protocol".
- FTP (using the TCP/IP network). This component allows transmissions to/from any FTP servers/clients

There are different conditions for distribution of the different components of rvs

rvs works as a monitor system in a separate MVS address space, independent of other products (subsystems) like CICS, IMS, TSO, JES2 or JES3.

The way how datasets are transmitted or received and a set of additional monitor functions like
- automatic jobstart after transmission of a certain dataset
- automatic dial function for BSC lines, X.25, LU 6.2 and TCP/IP connections
- automatic activation of BSC lines and/or SNA sessions if - for some reason - one or more of these lines (sessions) have become inactive

allow operation of rvs with a minimum of manual activities.

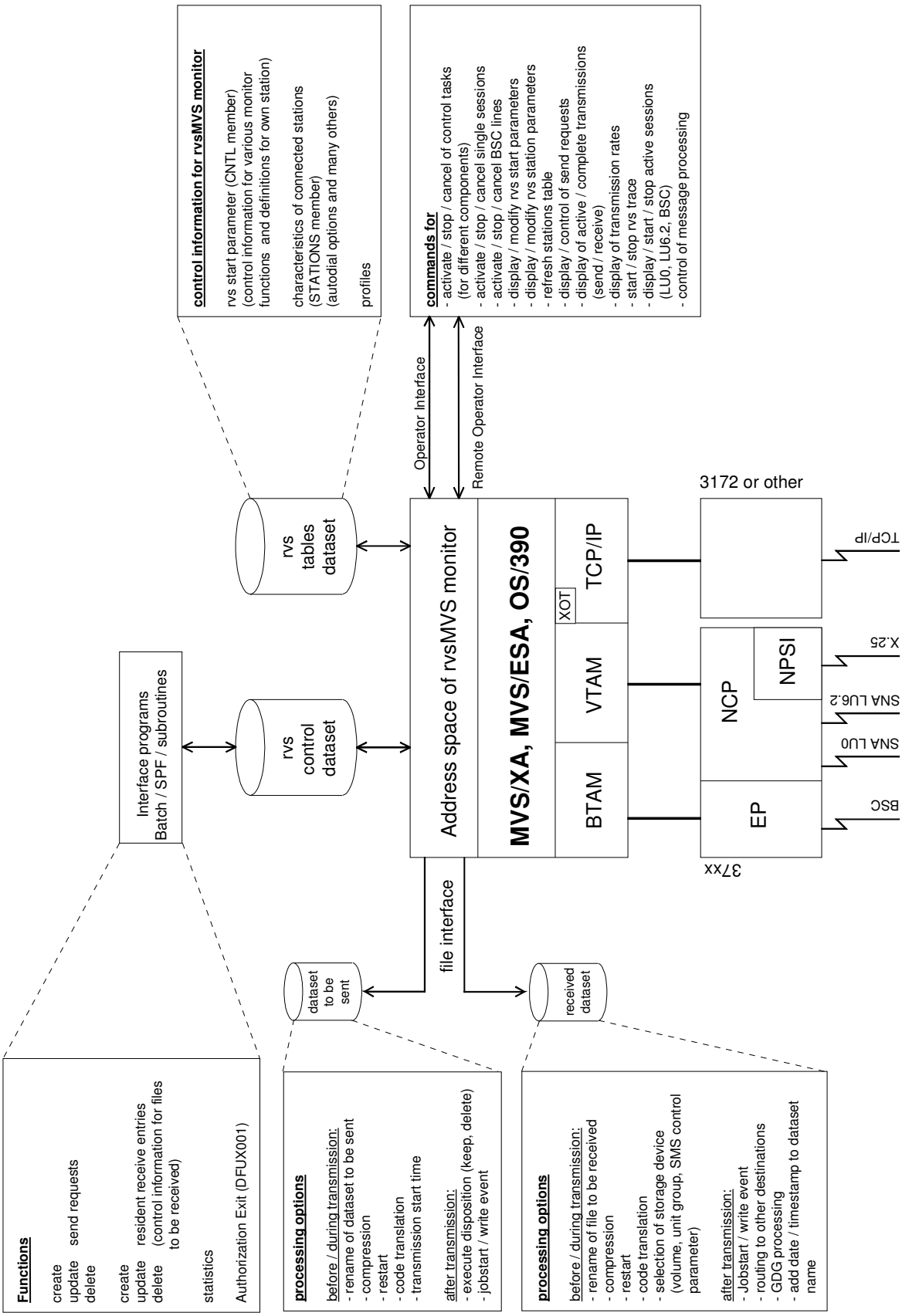
A remote operating function allows to control and operate from any 3270 screen.

The rvs monitor normally runs for the duration of one or more days, it is not necessary to stop the monitor before or after transmissions have been executed.

The rvs monitor is designed to operate with any number of BSC lines, SNA (LU 0 and LU 6.2), TCP/IP and X25 connections (switched virtual circuits). There is no restriction in view of the number of file transmissions which can be executed parallel at the same time.

Allocation of the datasets to be transmitted (received) takes place dynamically, i.e. no specific job control instructions are required within the rvs start procedure.

The following figure shows the structure of the rvs system:



A central control and information file (control dataset) contains - among others - information on pending, running and terminated transmissions. This file is the interface between the rvs monitor on one side and rvs users (batch jobs, TSO sessions using the rvs ISPF panels) on the other side.

Support of transmission protocols:

rvsMVS supports different transmission protocols. rvs internal protocols are used as well as common file transfer protocols.

- **rvs internal transmission protocols**

rvs internal protocols are used if the remote side uses one of the following rvs products:

Product	line procedure	functions of transmission protocol
rvsMVS	BSC, SDLC	restart, vertical code compression
rvs-DOS	BSC	restart, blank compression
rvs-VSE/SNA	SDLC	restart, vertical code compression
rvs-RPG	BSC	no restart, lineblocking (no compression)

- **rvs file transfer protocols**

VDA4914/1
rvs® supports the file transfer protocol as described in VDA recommendation 4914/1. The use of this protocol is restricted to BSC lines.

VDA4914/2
The "ODETTE File Transfer Protocol" is a new protocol of the VDA recommendation 4914 and will be named VDA4914/2 (1988). rvsMVS supports the revision 1.3, dated from Dec. 1992 without error recovery described in the 1.3 document.
The X25 , LU6.2 and TCP/IP components of rvs support this protocol.

For more service between stations with rvs® products, rvs enhances this protocol by using some specials:

- rvsMVS PDS File Transfer
  Use of the user fields of SSID and SFID protocol record. These fields contain some flags led by an eye catcher: **RF)** for initiator's outgoing protocol records and RF(for incoming protocol records.
- Additionally rvsMVS uses a SFID extension (SFIX) for transfer of partitioned data set information.
- Additionally rvsMVS uses a SFID extension (SFIX) for transfer of partitioned data set information.
- rvs® external Security and Compression Feature
  Enhancement of the first data block with a rvs® header (with an eye catcher of RVSF and some hex characters, in total 10 characters).
- User Level Security (ULS)
  ULS provides a user to user communication with file permission check.
- User Separation (USP)
  USP provides a remote user RACF check (mapping of name possible).

This page will be intentionally empty.

2. Installation Requirements

This chapter describes the requirements of the environment, in which rvsMVS can operate.

2.1. Software Requirements

rvsMVS runs on any host with operating system MVS/XA, MVS/ESA, OS/390 or z/OS.

Dependent on the component (TP line(s)) to be used by rvs (BSC, SNA, X.25, LU6.2, TCP/IP or any combination), the following software is required additional:

For BSC component:
- OS/VS BTAM (this is part of the operating systems MVS and MVS/XA) or BTAM SP (separate program product if operating system MVS/XA is used).
- EP/VS (emulation of 2701 or 2703 within the control unit).

For SNA component:
- ACF/VTAM Version 2 (or following releases).
- ACF/NCP Version 2 (or following releases).

For X25 component:
- ACF/VTAM Version 2, (or following releases).
- ACF/NCP Version 2 (or following releases).
- X.25 NPSI any Release compatible with the Release of ACF/NCP.

For X25 via XOT:
- IBM TCP/IP for z/OS.

For LU 6.2 component:
- ACF/VTAM Version 3.2 (or following releases).
- ACF/NCP Version 4.1 (or following releases).

For TCP/IP component:
- IBM TCP/IP for MVS V3R2 (or following releases).
- INTERLINK TCP/IP Release 4.1 (including CISCO IOS for S/390 Release 1.0).

For FTP component:
- IBM TCP/IP for MVS V3R2.

2.2. Hardware Requirements

rvs does not need special hardware (except TP lines incl. modems etc. where rvs shall work with). For access to files during data transfer, any kind of disk drives may be used.

2.3. Licensekey

The following member named USER will be shipped in the RVS.TABLES dataset. This member contains installation depend values.

```
9999999999                          ! Customer Number
rvsMVS                              ! Product
020100                              ! RELEASE
BXSL                                ! Included Components
TESTINSTALLATION                    ! Customer Name    (Part one)
                                    !                  (Part two)
                                    ! reserved
                                    ! reserved
                                    ! reserved
                                    ! reserved
                                    ! reserved
                                    ! Computer Model
TESTVERSION                         ! Physical CPU Identification
98365                               ! Expiration Date
1E45F2D3 A1E43A6F EE724EAF 74ED1A1B
46931227 A1CAC433 377F50D1 7AD16E85
******************************************** (C) Volkswagen AG 1978-98*
*                   make a success of rvsMVS                          *
*********************************************************************
```

To use rvsMVS you must give us the CPU-Identification of your Computer. You can find this CPU-ID by using of program DF018C. Example:

```
//#### JOB ......
//     EXEC PGM=DF018C
//CPU  DD  DISP=(NEW,KEEP),UNIT=SYSDA,DSN######,SPACE=(TRK,(1,1))
```

We generate a key and send it to you.

To use User Level Security you need the following components:

- **C** for User related Odette IDs
- **D** for Transfer Restrictions
- **E** for Virtual Stations

Please, insert this values into the member USER under consideration of all spaces and lines by using an default editor e.g. TSO-Editor or ISPF-Editor.

After correctly modifying of member USER you can use rvsMVS.

3. Generations, Definitions within Operating System and Control Unit

3.1. Definition for BSC component of rvs

Two things must be done to define a BSC line, which is to be used by rvs:
- definition of the line within the IODEVICE generation (MVS) and
- generation of the line within the control unit (EP generation).

3.1.1. BSC lines without autodial function

IODEVICE generation of BSC lines without autodial function

BSC lines must always be defined as "point to point" connections. The following parameters should be used for a switched BSC line:

```
IODEVICE ADDRESS=xxx,
         ADAPTER=BSCA,
         TCU=2703,
         UNIT=BSC2
```

The following parameters must be used for a leased BSC line:

```
IODEVICE ADDRESS=xxx,
         ADAPTER=BSCA,
         TCU=2703,
         UNIT=BSC1
```

"xxx" denotes the 3 byte subchannel address of the line.

EP generation for BSC lines without autodial function

The following is an example of an EP generation concerning the LINE and GROUP macros for a 2400 baud switched line:

```
GROUP CU=2703,
      DATRATE=HIGH,
      DIAL=YES,
      DUPLEX=HALF,
      LNCTL=BSC,
      PAD=NO,
      TERM=2020,
      TYPE=EP
LINE  ADDRESS=(yyy,xx),
      SPEED=2400,
      CLOCKNG=EXT
```

Remarks:

- The parameters "DIAL=YES", "DUPLEX=HALF", "LNCTL=BSC" and "PAD=NO" are mandatory, transmissions are impossible if one of the parameter values is specified different from those as shown above.
- The parameter "CLOCKNG=EXT" should be specified for every line, except for lines with a speed of 1200 baud. If "SPEED=1200" is specified, "CLOCKNG=INT" should be specified also.
- "yyy" denotes the address of the control unit, "xx" denotes the last two characters of the MVS address as specified in the IODEVICE macro.

The following is an example of an EP generation concerning the LINE and GROUP macros for a 9600 baud leased line:

```
GROUP CU=2703,
      DATRATE=HIGH,
      DIAL=NO,
      DUPLEX=FULL,
      INTPRI=2,
      LNCTL=BSC,
      NEWSYNC=NO,
      PAD=NO,
      SPEED=9600,
      CLOCKNG=EXT,
      TYPE=EP
LINE  ADDRESS=(yyy,xx),
      TERM=2780
```

Remark:

- "yyy" denotes the address of the control unit, "xx" denotes the last two characters of the MVS address as specified in the IODEVICE macro.

3.1.2. BSC lines with autodial function (Interface V.25)

Two things must be done to define a BSC line with autodial function, which is to be used by rvs:

- definition of the line within the IODEVICE generation (MVS) and
- generation of the line within the control unit (EP generation).

IODEVICE generation of BSC lines with autodial function

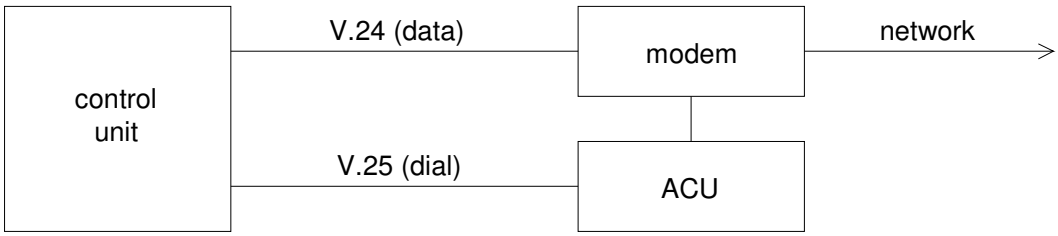
The following parameters should be used for a BSC line with autodial function:

```
IODEVICE ADDRESS=xxx,
         FEATURE=AUTOCALL,
         ADAPTER=BSCA,
         TCU=2703,
         UNIT=BSC2
```

"xxx" denotes the 3 byte subchannel address of the line.

EP generation for BSC lines with autodial function

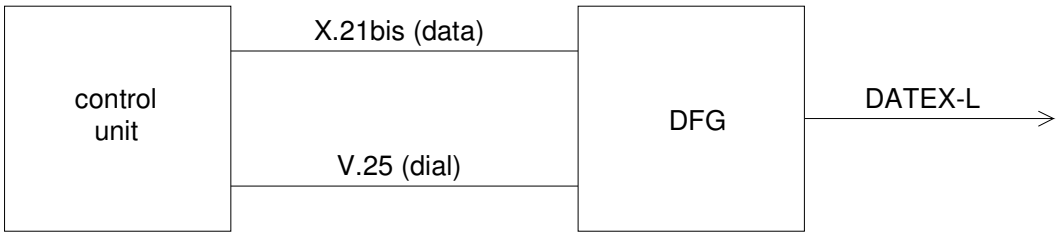
The following figure shows the physical connections between control unit, modem and automatic calling unit (ACU)



Remarks:
The physical connection between control unit and modem should be a connection as described in recommendation CCITT for V.24 (or X.21bis) interface. For IBM 3705, a lineset 1D is used for this interface, for IBM 3725 a LIC Type 1 is used. This is the same connection as used for BSC lines without autodial function.

The physical connection between control unit and ACU must be a connection as described in recommendation CCITT for V.25 interface. For IBM 3705, a line set 1E is used for this interface, for IBM 3725 a LIC Type 1 is used. This connection is used only for dialing. If dialing is complete, all data traffic is performed on the V.24 connection between contol unit and modem.

The "Datenfernschaltgerät (DFG)" for the DATEX-L network already includes the ACU. But the physical connections to the controlunit are the same as if modem and ACU are separate boxes (see figure below):



The following is an example of an EP generation concerning the LINE and GROUP macros for a 2400 baud switched line with autodial function:

```
GROUP DIAL=YES,
      LNCTL=BSC,
      PAD=NO,
      TYPE=EP
LINE  ADDRESS=(yyy,xx),
      AUTO=(zzz,20)
      CLOCKNG=EXT
      CU=2703,
      DATRATE=HIGH,
      DUPLEX=HALF,
      SPEED=2400,
      TERM=2020
```

Remarks:

- The parameters "DIAL=YES", "DUPLEX=HALF", "LNCTL=BSC" and "PAD=NO" are mandatory.
- The parameter "CLOCKNG=EXT" should be specified for every line, except for lines with a speed of 1200 baud. If "SPEED=1200" is specified, "CLOCKNG=INT" should be specified instead.
- "xx" denotes the last two characters of the MVS address for this line as specified in the IODEVICE macro, "yyy" denotes the address of the control unit for the V.24 (or X.21bis) interface, "zzz" denotes the address of the control unit for the V.25 interface used for dialing.
- The only difference between generation of a switched line with autodial function and generation of a switched line without autodial function is the coding of the "AUTO" parameter.

3.1.3. BSC lines with autodial function (Interface V.25bis)

The interface V.25bis is nowadays the standard for the autodial function, and it is more comfortable in view of installation than V.25.

This interface requires at least NCP V5R3 / EP V1R8.

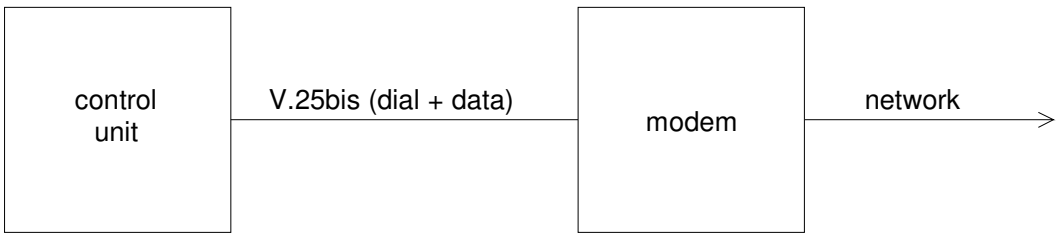
Two things must be done to define a BSC line with autodial function based on V.25bis, which is to be used by rvs:

- definition of the line within the IODEVICE generation (MVS) and
- generation of the line within the control unit (EP generation).

The IODEVICE generation for a switched BSC line with autodial function for V.25bis interface is exactly the same as for V.25 interface (see chapter 3.1.2).

EP generation for BSC lines with autodial function (V.25bis)

The connection between control unit and automatic calling unit (ACU) is simply a one cable connection between control unit and modem with V.25bis support:



The following is an example of an EP generation concerning the LINE macro for a 2400 baud switched line with autodial function based on V.25bis:

```
LINE  ADDRESS=(yyy,xx-0,xx-1),
      V25BIS=(YES,DLSS),
      AUTO=YES,
      DUPLEX=HALF,
      SPEED=2400,
      TYPE=EP,
      PAD=NO,
      CLOCKNG=INT,
      CODE=EBCDIC,
      TERM=2020,
      STATOPT='MDG14MX22'
```

Remarks:
"xx" denotes the last two characters of the MVS address for this line as specified in the IODEVICE macro, "yyy" denotes the address of the control unit for the V.25bis interface.

3.2. Definitions for SNA component of rvs

This section describes VTAM definitions which are necessary for a SNA connection between the local and a remote rvs installation.

The following requirements must be satisfied in order to establish a SNA connection with a remote rvs installation:
- The local rvs installation must include the SNA component.
- The remote rvs installation must include the SNA component (rvsMVS) or the remote side has installed rvsVSE/SNA.
- Local and remote hosts must be connected via SNA network.

It is possible to connect PU type 2 computers with rvs using the SNA component. In this case, rvs-compatible software is required for the remote computer, but the restriction to leased line connections must not be necessary. For a list of PU type 2 computers, which are already connected to rvs using the SNA component, see rvsMVS Interface Description.

VTAM definitions for the local rvs installation:

The local rvs installation must be defined within VTAM as a separate VTAM application:

```
          VBUILD TYPE=APPL
rvsA      APPL  AUTH=(ACQ),
                PARSESS=YES,
                VPACING=7,
                MODETAB=LMTrvs,
                DLOGMOD=rvs1
```

Remark:
The name of the APPL statement (here: RVSA) must be the same as specified for the rvs Startparameter "APPLID", see chapter 6.1.

Logmode table for rvs:

It may be useful to define a separate log mode table for RVS.

The use of log mode entries with different COS names allow the use of different "Virtual Routes" for different parallel sessions between the local and remote rvs installation (application).

A special log mode entry will be used by rvs during activation of a session to the remote application (rvs installation) if
- the name of the logmode to be used for this session is specified within the rvs Sessions Table (see chapter 6.4, description of columns 53-60)
- the activation of the session is a result of an activation command in the local rvs installation (see rvs Operation Manual, activation command "A-sid").

The following is an example of a log mode table with three entries used by rvs:

```
*********************************************************************
*  RVS1: BATCH VIRTUAL ROUTE     LOW PRIORITY                       *
*  RVS3: DIALOG VIRTUAL ROUTE    LOW PRIORITY                       *
*  RVS5: LOGMODE FOR A PU TYPE 2 COMPUTER                           *
*********************************************************************
LMTRVS   MODETAB
RVS1     MODEENT LOGMODE=RVS1,                                      *
               COS=BATCH1,              BATCH VR / LOW PRIORITY    *
               TYPE=1,                  BITS 4-7 VON BYTE 0        *
               FMPROF=X'03',            BYTE 1                     *
               TSPROF=X'04',            BYTE 2                     *
               PRIPROT=X'31',           BYTE 3                     *
               SECPROT=X'31',           BYTE 4                     *
               COMPROT=X'2000',         BYTES 5 U. 6               *
               SSNDPAC=X'06',           BYTE 7                     *
               SRCVPAC=X'06',           BYTE 8                     *
               RUSIZES=X'8888',         BYTES 9 U. 10              *
               PSNDPAC=X'06',           BYTE 11                    *
               PSERVIC=X'860000000000000000000000'   BYTES 13-24
RVS3     MODEENT LOGMODE=RVS3,                                      *
               COS=BATCH3,              DIALOG VR / LOW PRIORITY   *
               TYPE=1,                  BITS 4-7 VON BYTE 0        *
               FMPROF=X'03',            BYTE 1                     *
               TSPROF=X'04',            BYTE 2                     *
               PRIPROT=X'31',           BYTE 3                     *
               SECPROT=X'31',           BYTE 4                     *
               COMPROT=X'2000',         BYTES 5 U. 6               *
               SSNDPAC=X'06',           BYTE 7                     *
               SRCVPAC=X'06',           BYTE 8                     *
               RUSIZES=X'8888',         BYTES 9 U. 10              *
               PSNDPAC=X'06',           BYTE 11                    *
               PSERVIC=X'860000000000000000000000'   BYTES 13-24
RVS5     MODEENT LOGMODE=RVS5,                                      *
               COS=BATCH3,              DIALOG VR / LOW PRIORITY   *
               FMPROF=X'03',            BYTE 1                     *
               TSPROF=X'03',            BYTE 2                     *
               PRIPROT=X'31',           BYTE 3                     *
               SECPROT=X'31',           BYTE 4                     *
               COMPROT=X'3080',         BYTES 5 U. 6               *
               SSNDPAC=X'00',           BYTE 7                     *
               SRCVPAC=X'01',           BYTE 8                     *
               RUSIZES=X'8888',         BYTES 9 U. 10              *
               PSNDPAC=X'02',           BYTE 11                    *
               PSERVIC=X'000000000000000000000000'   BYTES 13-24
         MODEEND
         END
```

VTAM definitions for the remote rvs installation:

The remote rvs installation must be defined within VTAM as a cross domain resource:

```
         VBUILD TYPE=CDRSC
RVSB     CDRSC CDRM=Mnn,
               ...
               ...
```

"Mnn" denotes the name of a cross domain resource manager which must also be defined (if not already existing).

Example for a definition of a cross domain resource manager:

```
          VBUILD TYPE=CDRM
Mxx       CDRM  SUBAREA=xx,
                CDRDYN=YES,
                CDRSC=OPT
Mnn       CDRM  SUBAREA=nn,
                CDRDYN=YES,
                CDRSC=OPT
                ...
                ...
```

Definition of ACF/VTAM routes to the remote host (example):

```
Fxxnn     PATH  DESTSA=nn,
                ER0=(yy,1),
                VR0=0
                ...
                ...
```

Remarks:

- "nn" denotes the sub area of the remote host (remote rvs installation).
- "xx" denotes the sub area of the local host.
- "yy" denotes the sub area of the next node (host), if the connection between local and remote host is not a direct connection.
  - The name of the cross domain resource for the remote rvs (here: rvsB) must be specified within the rvs Stations Table (entry for the remote rvs installation, see chapter 6.2, parameter "LUNAME").

3.3. Definitions for X25 component of rvs

3.3.1. Definitions for using the X.25 network via XOT

This section describes the principles of X.25 connections via XOT.

XOT is a protocol for transmitting X.25 packets over a TCP/IP network. It was recommended by CISCO as RFC1613. An XOT capable hardware is able to extract the X.25 packets from XOT and send it over an X.25 network.

The following requirements must be satisfied in order to establish an X.25 connection with a remote station:

- The local rvs installation must include the X.25 component.
- The local control unit must include the IBM TCP/IP program product.
- TCP/IP connection to an XOT capable hardware (e.g. CISCO- or BINTEC- Router)
- The remote installation must support the "ODETTE File Transfer Protocol".
- Both installations must have an X.25 multi channel link.

For further information about router configuration see router manuals.

3.3.2. Definitions for using the X.25 network via NPSI

This section describes VTAM definitions and NPSI definitions which are necessary for a X.25 connection between the local and a remote installation.

The following requirements must be satisfied in order to establish an X.25 connection with a remote installation:

- The local rvs installation must include the X.25 component.
- The local control unit must include the X.25 NPSI program product
- The remote installation must support the "ODETTE File Transfer Protocol".
- Both installations must have an X.25 multi channel link.

VTAM definitions for the local rvs installation:

The local rvs installation must be defined within VTAM as a separate VTAM application:

```
          VBUILD TYPE=APPL
RVSX      APPL  AUTH=(ACQ),
                PARSESS=YES,
                VPACING=7
```

Remarks:
The name of the APPL statement (here: RVSX) must be the same as specified for the rvs Startparameter "XAPPLID", see chapter 6.1. It must be different from the application names (if used) for the SNA component and the remote operating function.

Switched Major Node

For the set of switched virtual circuits to be used by rvs, the definition of a "switched major node" within VTAM is required.

The following code is an example for the definition of a switched major node for two switched virtual circuits (rvs startparameter MAXSVC=2).

```
*************************************************************
*        DEFINITION OF A SWITCHED MAJOR NODE FOR rvs-X25       *
*        MULTI CHANNEL LINK: X30A0                             *
*        THIS DEFINITION INCLUDES SPECIFICATIONS NEEDED        *
*        FOR TWO SWITCHED VIRTUAL CIRCUITS                     *
*************************************************************
H030X03  VBUILD TYPE=SWNET
P30XOD01 PU    ADDR=01,                                        *
               IDBLK=003,              003 IS MANDATORY        *
               IDNUM=00002,            SEE NOTE ON NEXT PAGE   *
               BATCH=NO,                                       *
               DISCNT=(YES,F),                                 *
               IRETRY=YES,                                     *
               MAXDATA=3850,      VALUE MUST BE GREATER THAN 'XBFSIZE',*
*                                 SEE rvs STARTPARAMETER, CHAPTER 6.1. *
               MAXOUT=1,                                       *
               MAXPATH=0,                                      *
               PACING=1,                                       *
               PASSLIM=1,                                      *
               PUTYPE=1,               PUTYPE 1 IS MANDATORY   *
               SPAN=(SP11),                                    *
               VPACING=1,                                      *
               ISTATUS=ACTIVE
T30XOD01 LU    LOCADDR=0,              0 IS MANDATORY          *
               MODETAB=LMTrvsX,        SEE EXAMPLE             *
               PACING=(1,1),                                   *
               SSCPFM=USSSCS,                                  *
               SPAN=(SP11),                                    *
               VPACING=2
```

```
P30XOD02 PU    ADDR=01,                                          *
               IDBLK=003,                                        *
               IDNUM=00004,                                      *
               BATCH=NO,                                         *
               DISCNT=(YES,F),                                   *
               IRETRY=YES,                                       *
               MAXDATA=3850,                                     *
               MAXOUT=1,                                         *
               MAXPATH=0,                                        *
               PACING=1,                                         *
               PASSLIM=1,                                        *
               PUTYPE=1,                                         *
               SPAN=(SP11),                                      *
               VPACING=1,                                        *
               ISTATUS=ACTIVE
T30XOD02 LU    LOCADDR=0,                                        *
               MODETAB=LMTrvsX,                                  *
               PACING=(1,1),                                     *
               SSCPFM=USSSCS,                                    *
               SPAN=(SP11),                                      *
               VPACING=2
```

Note :

Coding of IDNUM:

During session establishment NPSI generates an idnum value. This (hex-)value must match with one of the idnum values defined in your switched node. The lowest idnum value is 00002, followed by 00004, 00006 etc.: If you initiate a call-out, the NPSI generates an idnum beginning with the number of the lowest non-busy channel. If you receive a call-in, the NPSI generates the idnum of the highest non busy SVC.

Example 1:

You defined 5 SVCs on your multi channel link. A call-out will trigger the NPSI to generate the idnum value 00002. A call-in will lead to 0000A.

Please consider that the sequence of idnum mustn't necessarily start with 00002. If you have defined other SVCs in your NCP you have to take this into account. NPSI-stage-1-output shows the sequence of all SVCs assigned to your NCP. Idnums can be found out as follows: The first SVC (permanent virtual circuits will not be counted) gets the fictious number 00002, the second SVC 00004, the third 00006, etc., independent whether it will be used by rvs or not.

Example 2:

You have installed 2 multi channel links on the same NCP. On the one multi channel link you use 1 PVC and 4 SVCs, on the other you use the first 4 SVCs for RVS. If your NPSI-stage-1-output shows the rvs-SVCs on position 5,6,7,8 you have to code the idnums 0000A, 0000C, 0000E, 00010 in your switched major node.

```
*********************************************************************
*   MODETAB FOR NPSI GATE SESSIONS (ODETTE)                         *
*********************************************************************
LMTRVSX  MODETAB
BATCH1   MODEENT LOGMODE=BATCH1,COS=BATCH1,                        *
               FMPROF=X'03',TSPROF=X'03',                          *
               PRIPROT=X'90',SECPROT=X'90',COMPROT=X'0040',        *
               RUSIZES=X'8888',                                    *
               PSNDPAC=X'01',                                      *
               PSERVIC=X'010000000000000000000000'
         EJECT
         MODEEND
         END
```

Generation of the X.25 NPSI

The following code is an example for the definition of a multi channel link within the NPSI. Note that rvs uses only switched virtual circuits (SVC's).

The number of SVC's defined within the NPSI must be (at least) the same as specified for the rvs start parameter "MAXSVC=nn", see chapter 6.1.

```
*****************************************************************
*        (PART OF) NPSI GENERATION USED FOR rvs-X25              *
*        MULTI CHANNEL LINK: X30A0                               *
*        LU NAME:            X30A0A                              *
*        15 SVC'S                                                *
*****************************************************************
         X25BUILD IDNUMH=00,          USED FOR NON-SNA SWITCHED         *
               JOBCARD=NO,            STAGE 2 JOB                       *
               MAXPIU=3850,           LONGEST PIU THAT ALLOWED          *
               MCHCNT=4,              NUMBER PHYSICAL LINKS             *
               MODEL=3725,            COMM. CONTROLER                   *
               SNAP=NO,               DIAGNOSIS SNAP NOT INCLUDED       *
               SRCPRFX=XN301,         SUBAREA                           *
               TYPSYS=OS,             STAGE2 PROVIDED FOR OS            *
               VERSION=V4R2           NCP VERSION
         X25NET DM=YES,               NETWORK SEND LAPB COMMAND         *
               NETTYPE=1,             TYPE  1  NETWORK                  *
               CPHINDX=1,             1 ENTRY DEFINED FOR VCCPT         *
               OUHINDX=1              1 ENTRY FOR OUFT
*****************************************************************
*        INSTRUCTIONS FOR VIRTUAL CIRCUITS                       *
*****************************************************************
         X25VCCPT INDEX=1,            FIRST ENTRY IN VCCPT              *
               MAXPKTL=128,           MAX PACKET LENGTH                 *
               VWINDOW=2,             TRANSMIT/RECEIVE WINDOW SIZE=2    *
               INSLOW=(6,0)           FREE BUFFER 6% HIGHER THAN NCP
         X25OUFT INDEX=1              DUMMY ENTRY OUFT
*****************************************************************
*        INSTRUCTIONS FOR MULTI CHANNEL LINK X30A0               *
*****************************************************************
X30A0    X25MCH                                                    *
               ADDRESS=047,           3725 ADDRESS FULL DUPLEX          *
               FRMLGTH=131,           MAXIMUM FRAME LENGTH              *
               LCGDEF=0(15),          ON   LCCGN=0 , HIGHEST CHANL=15   *
               MWINDOW=7,             FRAM WINDOW 7                     *
               ANS=CONT,              CONTINUE FOR NCP PU MACRO         *
               DBIT=NO,               D BIT NOT USED IN PCNE            *
               DSABLTO=3,             DISABLE TIMEOUT IN SECOND         *
               ENABLTO=3,             ENABLE TIMEOUT IN SECOND          *
               GATE=GENERAL,          GATE FUNCTION MUST BE USED        *
               ISTATUS=ACTIVE,                                          *
               LCN0=NOTUSED,          INCOMING PACKETS LOGICAL CHANNEL0 *
               LLCLIST=(LLC4),        LLC4 MUST BE USED                 *
               LUNAME=X30A0A01,       LU NAME                           *
               NCPGRP=G03050,         NAME OF NCP GROUP MACRO           *
               NDRETRY=1,             NUMBER OF  (TP*NP) RETRY          *
               NPRETRY=7,             NUMBER OF RETRIES TPTIMER ELAPSED *
               OWNER=DUMMY,                                             *
               PAD=NO,                NO LLC5 OPERAND IS USED           *
               PKTMODL=8,             MUST BE HIGHER THAN VWINDOW       *
               PUNAME=X30A0A,         NAME OF THE PU                    *
               SPAN=(SP11),                                             *
               STATION=DTE,           THIS PHYSICAL LINK IS A DTE       *
```

```
               TDTIMER=1,            TIMER TO WAIT FOR ND RETRIES      *
               TRAN=NO,              NO TRANSLATION IS TO BE PERFORMED *
               TPTIMER=1             X.25 T1 TIMER IN SECONDS
         X25LCG LCGN=0               LOGICAL CHANNEL GROUP=0
*****************************************************************
*        INSTRUCTIONS FOR 15 SWITCHED VIRTUAL CIRCUITS         *
*****************************************************************
         X25VC                                                    *
               SPAN=(SP11),                                       *
               LCN=(1,15),           15 VIRTUELLE LINES           *
               TYPE=SWITCHED,                                     *
               OUFINDX=1,             DEFIND IN X25OUFT MACRO     *
               VCCINDX=1,             VIRTUAL CICUIT              *
               CALL=INOUT,                                        *
               COMMITO=4,             COMMIT TIMEOUT              *
               ISTATUS=ACTIVE,                                    *
               MAXLU=3,               NUMBER OF LU'S FROM PU IN VTAM   *
               NCPGRP=G03051,         NCP GROUP NAME              *
               OWNER=DUMMY,                                       *
               RETVCTO=30,            TIMER BETWEEN RETRANSMISSIONS    *
               RETVCCT=5              NUMBER OF RETRANSMISSIONS
```

Remarks:

Parameter MAXPKTL of the X25VCCPT macro corresponds with the rvs start parameter PSIZE. The same value must be specified for both parameters.

Parameter VWINDOW of the X25VCCPT macro corresponds with the rvs start parameter WSIZE. The same value must be specified for both parameters. Note that this value must be the same as the value, which is generated by the national telephone company within the X25 network for the multichannel link.

Parameter GATE=GENERAL must be coded within the X25MCH macro. The LLCLIST parameter of the X25MCH macro must contain the value LLC4.

Parameter LUNAME of the X25MCH macro corresponds with the rvs start parameter XLUNAME. The same value must be specified for both parameters.

Parameter LCN of the X25VC macro corresponds with the rvs start parameter MAXSVC, see chapter 6.1.

OUT for parameter CALL of the X25VC macro is inhibited. Allowed are IN and INOUT.

Important:

The NCP-Generation must contain a LUDRPOOL definition with NUMTYP1=n. n is the number of control blocks conserved in your NCP, necessary for establishing the lu-lu sessions between rvs-CTCP and NPSI. You should code this value according to the number of SVCs.

3.3.3. Definitions for using the ISDN network

The use of an ISDN network will be able by using a special hardware box which is switching the X.25 protocol to the ISDN protocol. Such a special hardware box may be delivered e.g. from the COMTES or the DATUS company. The box works as a protocol converter for X.25.

To transfer data through the ISDN network rvsMVS uses an X.25 component. Therefore the definitions are the same like for native X.25 network connections. It is necessary to create a station entry along the X.25 rules. The partner's ISDN dial up number must be filled into the X25NUM field and for X.25 via NPSI connections an XAPPLID must be created for every SVC

which is connected to the hardware box. Chapters 6.1.1 and 6.2.11 show examples for mixed definitions of X.25 and ISDN network.

3.4. Definitions for the SNA LU6.2 component of rvs

This section describes VTAM definitions that are necessary for an SNA LU6.2 connection between local and remote rvs installations.

The following requirements must be satisfied in order to establish an LU6.2 connection with a remote rvs installation:

- The local rvs installation must include the SNA LU6.2 component.
- The remote installation must include an rvs LU6.2 component.
- Local and remote computers must be connected via SNA network.

VTAM definitions for the local rvs installation:

The local rvs installation must be defined as a separate VTAM application (independent LU):

```
            VBUILD TYPE=APPL
RVSL        APPL  AUTH=(ACQ),
                  PARSESS=YES,
                  VPACING=7,
                  MODETAB=LU62MODT,
                  APPC=YES
```

Remark:
The name of the APPL statement (here: RVSL) must be the same as specified for the rvs Startparameter "LU62APPL", see chapter 6.1.

A special logmode must be defined for the LU6.2 component:

```
*********************************************************************
* LOGMLU62      RVS LU 6.2
*********************************************************************
         MODEENT LOGMODE=LOGMLU62,COS=#BATCH,
               TYPE=X'00',
               FMPROF=X'13',TSPROF=X'07',
               PRIPROT=X'B0',SECPROT=X'B0',COMPROT=X'D0B1',
               RUSIZES=X'8686',PSERVIC=X'060200000000000000002C00'
         MODEEND
```

The log mode name must be referred to by the rvs start parameter LU62MODE, see chapter 6.1, it must be 8 characters long.

The remote station must be defined as independent LU. The name of the remote LU is to be referred to by the stations tables parameter LUNAME, see chapter 6.2.5.

The following example refers to definitions of an independent LU within the NCP for a remote rvs/LU6.2 over a leased line:

```
    PURVSL   PU ADDR=C1,
                  ANS=CONT,
                  AVGPB=1280,
                  MAXDATA=262,
                  MAXOUT=7,
                  NPACOLL=YES,
                  PUTYPE=2,
                  XID=YES,          <==== PU 2.1
                  ISTATUS=ACTIVE
```

```
****************************
LURVSL   LU LOCADDR=0,
                DLOGMOD=LOGMLU62,
                MODETAB=LU62MODT,
                PACING=7,
                RESSCB=5,
                SSCPFM=FSS,
                VPACING=7,
                ISTATUS=ACTIVE
```

The following example refers to definitions of an independent LU within a switched major node, e.g. for Token Ring or X.25:

```
PURVSL   PU    ADDR=C1,
               DISCNT=YES,
               IDBLK=nnn,
               IDNUM=nnnnn,
               IRETRY=NO,
               MAXDATA=261,
               MAXOUT=7,
               PUTYPE=2,
               ISTATUS=ACTIVE
LURVSL   LU    LOCADDR=0,
               DLOGMOD=LOGMLU62,
               MODETAB=LU62MODT,
               SSCPFM=FSS,
               PACING=7,
               VPACING=7,
               ISTATUS=ACTIVE
```

3.5. Definitions for TCP/IP component of rvs

This section describes definitions which are necessary for the TCP/IP component of rvs.

The only requirement for the use of this component is the installation of of a TCP/IP product. This may be either IBMs TCP/IP for MVS, Version 3, Release 2 (or following version) or the TCP/IP product of INTERLINK.

There are no restrictions in view of the equipment used for the connection of the host with the IP network.

3.6. Definitions for FTP component of rvs and rvsLight

This section describes definitions which are necessary for the FTP component of rvs.

With this component rvsMVS gives you an interface to the FTP. Your communication partner only needs FTP support which is nowadays part of most of the common operating systems. You can exchange data with your partner without having to resign the many rvs-functions like routing, automatic dataset processing etc.
In opposite to the other components of rvsMVS this FTP-component represents a decoupled solution, that is this component does not reproduce FTP but uses FTP as part of the TCP/IP-software for the actual file transfer. Because of this it is necessary to take a separate look at the transmission directions.

Definition of FTP partners

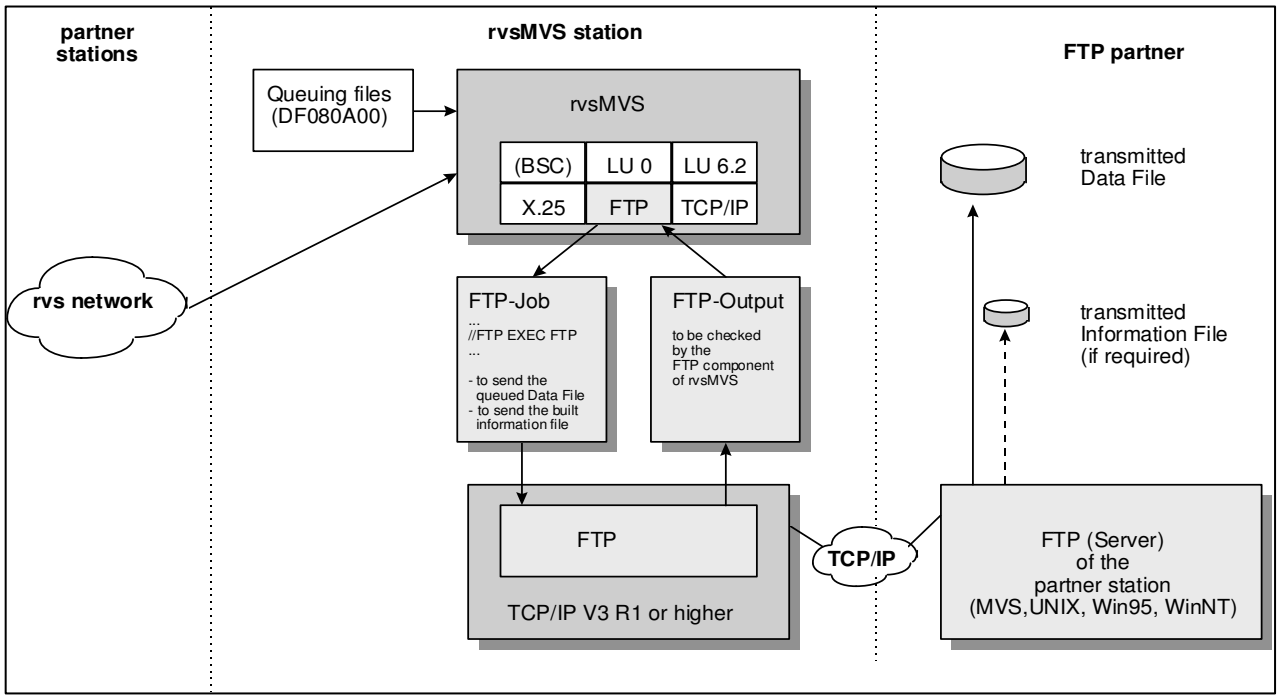
For data transmission the partner has to be defined in rvsMVS first. For this you need to know the partner's IP-Address as well as a User-ID and a Password for the FTP-session setup.

Sending data to an FTP partner

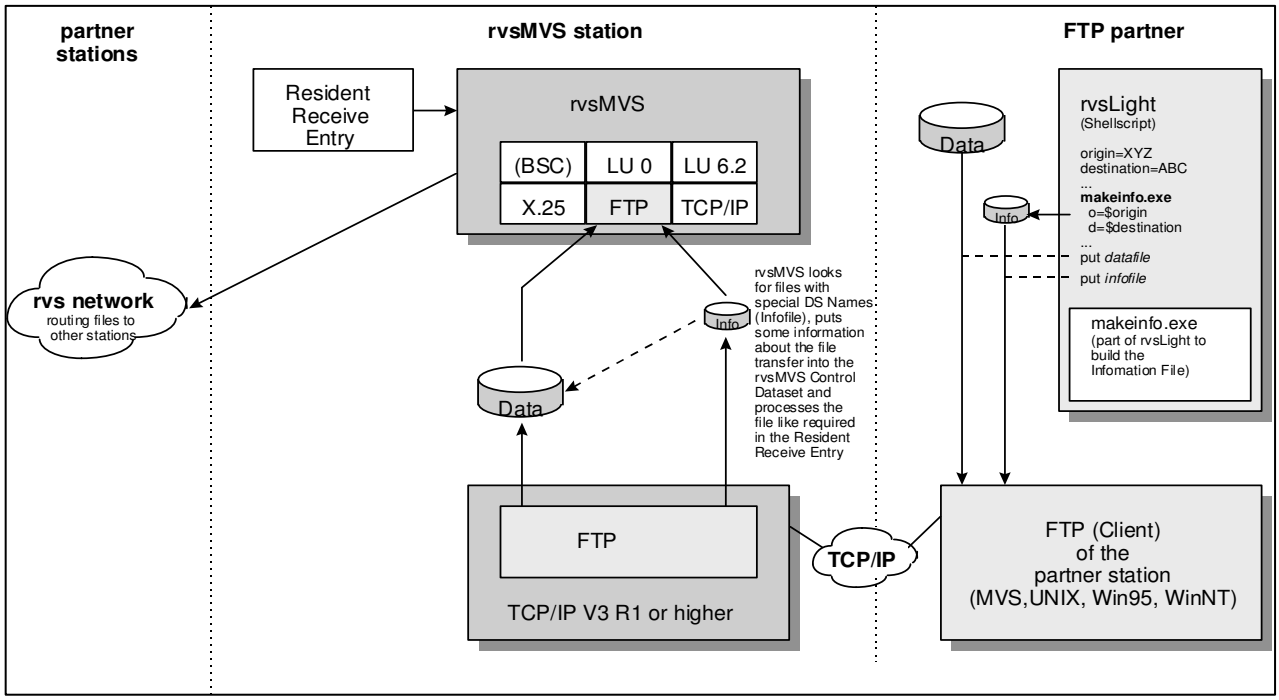
You can queue datasets either using the ISPF user interface or using the BATCH/TSO interfaces, which means you tell rvsMVS to send the specified dataset to the desired partner station. rvsMVS generates a Batch-Job out of these information which invokes the FTP. Session setup, dataset transmission and session shutdown are executed within this FTP-Job.
The processing of the FTP commands is logged in an output-dataset, which is checked after transmission by rvsMVS.
In this way it is ensured, that the dataset has been correctly transmitted to the partner or – if not – the transmission is restarted automatically by rvsMVS.
To give the partner information regarding the transfer (sender, dataset format, queuing time etc.) there is the possibility to send an information file along with the data itself. This information file will be generated automatically by rvsMVS if desired.

Receiving data from an FTP partner

rvsMVS as receiver first of all has no influence on receiving the dataset. This is done only by the FTP. To support the partner in sending the dataset(s), rvsLight is used, a shell script, which enables the FTP access and which creates and transmits the information file for the dataset to be transmitted (sender, final receiver, name and format of the dataset etc.). rvsMVS is looking for information files periodically, evaluates them, registers the previous receiving of a dataset and starts the desired processing (rename of dataset, job start, routing etc.).
The following pictures shows transmission using the FTP component of rvsMVS:



Filetransfer with the FTP component of rvsMVS (send direction)



Filetransfer with the FTP component of rvsMVS (receive direction)

The requirement for the use of this component is the installation of IBMs TCP/IP for MVS, Version 3, Release 2 or following version.
There are no restrictions in view of the equipment used for the connection of the host with the IP network.

3.7. Definitions for rvsWIN stations

This section contents special hints for using rvsWIN.

Creating rvsWIN installation disks

The rvsMVS installation tape contains the file 'RVS.RVSWIN.EXE'. After copying this file to disk on MVS host, you have to transfer this file to your PC. You should use the file transfer function of the 3270 terminal emulation on your PC (options: without including CR LF, without code translation). This dataset is a self-extracting file and it will create the directory /RVSSETUP on your PC. This directory contains all rvsWIN installation files.

Defining rvsWIN stations

You can find the definitions for rvsWIN stations in chapter 6.2.2 and 6.2.10 of this manual.

Running rvsWIN

To run rvsWIN, the rvsWIN user needs following information and authorization: rvsWIN Stations-ID (defined in rvsMVS Stations Table, see chapter 6.2.2) fixed password or RACF authorization Application ID (LU name) of rvsMVS SNA component (defined in member "CNTL" of rvsMVS table file; parameter "APPLID=...")

In addition the rvsWIN user needs authorization to enter the following LOGON line (including DATA operator) from his terminal (PC with 3270 emulator). rvsWIN creates this LOGON for session establishment:

```
LOGON APPLID(applid) DATA(WI/sid)
           applid:  application identification of rvsMVS SNA component
           sid:     rvsWIN Station-ID
```

It is possible that you have to change some VTAM definitions.

3.8. Definitions for remote operating function

This section describes VTAM definitions which are necessary if the remote operating function shall be used.

The only requirement for the use of the remote operating function is the definition of an application within VTAM:

```
           VBUILD TYPE=APPL
 RVSO      APPL  AUTH=(ACQ),
                 PARSESS=NO,
```

Remark:
The name of the APPL statement (here: rvsO) must be the same as specified for the rvs Startparameter "RMOPAPPL", see chapter 6.1.

This page will be intentionally empty.

4. rvs System Files

The following files are required for the control of rvs. Dataset names are freely selectable for each installation. The following names will be utilized throughout this manual:

Designation	Dataset name	Dataset organisation
Load module library	RVS.LOAD	Library (PDS)
rvs Controldataset	RVS.KD	VSAM KSDS
rvs Logdataset	RVS.LOG	BDAM dataset
rvs Tables Dataset	RVS.TABLES	Library (PDS)
rvs Key Dataset	RVS.KEY.DS	VSAM KSDS
rvs Permission Tables Dataset	RVS.PTABLES	Library (PDS)
rvs User Mapping Dataset (USP)	RVS.USERDATA	VSAM KSDS
rvs User Mapping Log (USP)	RVS.USERLOG	BDAM dataset
rvs User Log Dataset (USP)	RVS.LOGDATA	VSAM KSDS
rvs User Log Log (USP)	RVS.LOGLOG	BDAM dataset
rvs JOBS Dataset	RVS.JOBS	Library (PDS)
rvs EXEC Dataset (REXX)	RVS.EXEC	Library (PDS)

4.1. rvs Load Library

The rvs software is provided in load-module form. The load library contains all modules which are used for rvs operation and control. Some modules within this library are "dummy" modules, for example modules used as installation dependent exits. These modules may be replaced by other programs. A description of these exits is contained in the appendix of this manual.

Remarks:
The installation tape contains different load libraries depending on the fact which components of rvs are distributed (BSC, SNA, X25). Message

```
DF3046I INCLUDED COMPONENTS OF rvsMVS: ...
```

will be displayed after start of the rvs Monitor in order to indicate which components of rvs are available in the installation.

The rvs load library may contain an "expiration date". This date is used to distinguish between "test" installations of rvs and "normal" installations. If an expiration date is included, message

```
DF3044I EXPIRATION DATE OF CURRENT SOFTWARE: ddd/yy
```

will be displayed after start of the rvs Monitor, where "ddd" is the julian date and "yy" is the year of the expiration date.

4.2. rvs Controldataset

The rvs Controldataset (RVS.KD) is organized as a VSAM KSDS.

All information required on the individual transmissions are stored in the Controldataset. It is the central information and controlfile, a kind of 'catalog' within the rvs system and thus an interface between the rvs Monitor on one side and rvs users on the other side.

All requests for transmissions of files are stored in this dataset, and if active, the rvs Monitor scans this file for transmission requests and transmits these files as soon as a transmission path is available.

So it is possible to obtain for example status information about all transmissions which
- have not yet started (queued send requests)
- are just active (in this case record counters for a later restart are saved in the file)
- are complete (so it is always possible to display information about transmissions of the last days)

The control dataset contains additional information about the various processing options that shall be executed after a file has been received (for example automatic jobstart).

Remark:
The rvs control dataset should be reorganized from time to time depending on the number of CI and CA splits, which have occurred during normal operation of rvs.
Too many splits reduce performance when the control dataset is scanned for display of information. For this, a reorganization should be done if more than 5 - 8 CA splits have been done.
A reorganization should be done by execution of procedure PDF0015A (for SMS use PDF0015B), see chapter 6.9.4 within this manual.

4.3. rvs Logdataset

The rvs log dataset (RVS.LOG) is a formatted sequential dataset (BDAM).

All updates of the Controldataset will be logged within this file. The only reason for introduction of this file is the following:
The content of the Controldataset changes with every transmission, thus the requirements for a restore of this file in case of a catalog failure or disk error are different from those for other datasets. The Logdataset allows to reconstruct a damaged Controldataset without loss of any information at any time.
A more detailed description may be found in chapter 6.9.4, section "Saving and Recovery of the rvs Controldataset".

4.4. rvs Tables Dataset

The Tables Dataset (RVS.TABLES) is organized as a PDS.

Its members contain different information:
- control information and tables which is used for operation of rvs
- JCL and procedures which are used for maintanance and operation of rvs
- other (optional) information (for example CLISTS) which may be used for rvs Statistics, see Appendix D.

Look for further information chapter 0, 6.10 and 6.11 too.

4.5. rvs Key Data data set

The rvsMVS Key data dataset (RVS.KEY.DS) is organized as a VSAM KSDS.

It is a necessary data set if the rvs installation want to use the Security Feature. All private and public keys you want to use in a rvs installation have to store in the Key Data dataset. This data set is the central information data base for the security feature. It works as an interface between the rvs Monitor and rvs Security Administrator which maintains the security key data.

Security keys will be obtained by a data set key of KEYTYPE, SID and KEYID. KEYTYPE may be PU for public keys or PR for private keys, SID is identically with the rvs parameter SID and KEYID is a hexadecimal character string which make the key unique in a rvs installation. The key identification KEYID will be generated by the key generation program and is equal for a key pair consisting of a public and private key.

Remark:

- The program DF054K may be used for maintaining the Key Data set. For more information about this program, see appendix I within this manual.

4.6. rvs Permission Tables Dataset (ULS feature only)

The Permission Tables Dataset (RVS.PTABLES) is organized as a PDS.

Its members contain different information:

- USER member contains ‘user to station” mapping (local side)
- members SN#xxxxx contain permission entries (direction send) for one neighbour
- members RN#xxxxx contain permission entries (direction receive) for one neighbour

See for further information chapter 9.5, too.

4.7. Datasets for USP feature only

rvs User Mapping Dataset (USP)	RVS.USERDATA	VSAM KSDS
rvs User Mapping Log (USP)	RVS.USERLOG	BDAM dataset
rvs User Log Dataset (USP)	RVS.LOGDATA	VSAM KSDS
rvs User Log Log (USP)	RVS.LOGLOG	BDAM dataset

- rvs User Mapping Dataset – VSAM dataset with user mapping
- rvs User Mapping Log – log of User Mapping Dataset
- rvs User Log Dataset – VSAM dataset with log events
- rvs User Log Log – log of User Log Dataset

For detailed information see chapter 9.6.

4.8. rvs Jobs Dataset

The Jobs Dataset (RVS.JOBS) is organized as a PDS.

Its members contain JCL for starting some usefull rvs tools.

4.9. rvs EXEC Dataset

The Exec Dataset (RVS.EXEC) is organized as a PDS.

Its members contain REXX scripts for different tasks.

5. Steps for installation of rvsMVS

The Distribution medium of rvsMVS is Distribution CD.

5.1. Installation Guide from the Compact Disk

The following steps must be performed when installing rvs:

1. System I/O Device generation for all used BSC lines, see chapter 3.

2. Generation of all used BSC lines within the control unit (for example IBM 37x5), see chapter 3.

3. Definition of VTAM resources (if SNA- or X25-component or the remote operating function are used) and generation of the NPSI if the X25 component is to be used, see chapter 3.

4. Transferring files to the MVS host:

   All of the files - except README.TXT(DOC), RVSWIN.EXE, release info and rvsMVS documentation - are datasets for the MVS environment. These datasets have to be transferred from the workstation to the MVS host.

   This may be done by various programs using different protocols, e.g. rvsWIN, rvsNT, FTP or 3270-emulations like Extra, Reflection, PC3270 or Irma using the host program IND$FILE.

   In all cases it is important to use binary mode with recfm=FB and lrecl=80. This is very important in order to be able to reload the datasets correctly on the MVS host.

   Using rvsWIN you have to choose the option for advanced users - Menu "Options (Einstellungen)","User Level (Benutzerebene)", "Professional (Fortgeschrittene) at first".
   For queuing the datasets it is important to specify fixed record format with record length 80, but NO Text! Be sure to specify a valid first level qualifier for the MVS environment, e.g. your USERID.
   It may take some time to transfer all files by rvsWIN!

   For IND$FILE it might be necessary to allocate enough space for the datasets (e.g. 5 cylinders for the load libraries). This may be done in the emulation software when transferring the files.

   For FTP the options may differ, dependent on the FTP server on the host. Anyhow, record length of 80 and record format FB are mandatory!

5. Reloading the host datasets:

   All datasets - except RECEIVE - are unloaded PDS datasets that have to be loaded with TSO command RECEIVE. To do so, copy the job RECEIVE into your JCL library as a member, adjust the job and the dataset names according to your installation requirements and submit it.

   When the job has finished, you will find six partitioned datasets with following names:

   RVS.CLIST
   RVS.LOAD
   RVS.MSGS

RVS.PANEL
RVS.SOURCE
RVS.TABLES
RVS.JOBS
RVS.EXEC

with first level qualifier "RVS" changed according to your installation requirements.

The next steps of installation are described in chapter 5.5 of this manual.

Note: After submit of job RECEIVE the message
„FCO760W ALIAS DATUM2 IN INPUT DATASET HAS NO OWNER“
can occur. This message can be ignored.

6. Authorization:
   There are two reasons to define the rvs load library as an APF authorized library:
   - Some status displays for transmissions using the FTP component may be incomplete.
   - rvs User Exits (see Appendix) have been installed and at least one of these exits requires authorization.

   If none of the installed User Exit requires APF authorization, it is not necessary to define the rvs load library as an APF authorized library. Independent of the definition of the rvs load library (APF or not), all rvs modules are linked with attribute "AC=1".

7. Creation of module "DF067A", described in chapter 5.3.

8. Creation and Initialization of the rvs Control Dataset, see chapter 5.5.

9. Creation of the rvs Log Dataset, see chapter 5.6.

10. Modification of the rvs Tables Dataset, see chapter 5.7.

11. Installation of rvs ISPF panels, see chapter 5.8

12. Creation and Initialization of the rvs Key Data data set if Security Feature will be used, see chapter appendix I.

13. Inserting the Security Key of your own and of your partner(s), see chapter appendix I.

14. (optional) Creation of the rvs Permission data set if ULS (User Level Security) will be used, (see chapter 9.5).

15. (optional) Inserting the User und Permision entries in Permission data set members, (see chapter 9.5).

16. (optional) Creation of the rvs USP data sets if USP (User Separation) will be used, (see chapter 9.6).

17. Running test procedures, see chapter 7.

5.2. Content of Compact Disk:

README.TXT	Info dataset
README.DOC	
CHANGES.DOC	Information in detail about rvsMVS changes in this release

CLIST.SEQ	ISPF CLIST dataset
LOAD1.SEQ	rvs Loadlib part 1
LOAD2.SEQ	rvs Loadlib part 2
LOAD3.SEQ	rvs Loadlib part 3
LOAD4.SEQ	rvs Loadlib part 4
LOAD5.SEQ	rvs Loadlib part 5
LOAD6.SEQ	rvs Loadlib part 6
MSGS.SEQ	ISPF MSGS dataset
PANEL.SEQ	ISPF PANEL dataset
SOURCE.SEQ	Source library. This file contains various source members: ▪ · layout of rvs controlblocks which may be used if rvs User Exits are to be used ▪ · assembler source code as example of rvs User Exits or other ▪ installation dependent programs ▪ · sample jobs, useful during installation of RVS. ▪ · macro "rvsDYN", used during installation of rvs
TABLES.SEQ	Dataset containing control information for the rvs monitor and jobs used for installation (or operation) of rvs
JOBS.SEQ	JOBS dataset
EXEC.SEQ	EXEC dataset
RECEIVE	JCL for loading rvsMVS installation datasets

<u>rvsMVS documentation files in Word format</u>

- Installation_Manual.doc
- Messages_and_Codes.doc
- User_Manual.doc
- Benutzer_Handbuch.doc
- Operation_Manual.doc
- Operator_Handbuch.doc

<u>rvsMVS documentation files in Acrobat Reader format</u>

- Installation_Manual.pdf
- Messages_and_Codes.pdf
- User_Manual.pdf
- Benutzer_Handbuch.pdf
- Operation_Manual.pdf
- Operator_Handbuch.pdf

5.3. <u>Creation of module DF067A - Macro rvsDYN</u>

rvsMVS requires the generation of a module with name "DF067A". This module contains the (installation dependent) datasetnames (and - if used - passwords) of the rvs Systemfiles. The dataset names (and - if present - passwords) will be scrambled and stored within the module. This module is used by many rvs programs in order to perform dynamic allocation of one or more of the rvs Systemfiles if required.

Member "rvsDYN" of the Source Library (second file of the rvs installation tape) contains the macro "rvsDYN", which may be used to create the module.

This macro generates JCL statements. Execution of these statements results in assembly and link of module DF067A

Caution:
For operating system MVS/XA, both, addressing mode (AMODE) and residency mode (RMODE) must be set to 24-bit-addressing.

Coding of macro RVSDYN:

```
RVSDYN  LOADLIB={ RVS.LOADLIB | dsname }            *
       ,DSNKD={ RVS.KD | dsname }                   *
       ,DSNLOG={ RVS.LOG | dsname }                 *
       ,DSNTBL={ RVS.TABLES | dsname }              *
       ,DSNJOBS={ RVS.JOBS | dsname }               *
       ,PWKD=password                               *
       ,PWLOG=password                              *
       ,PWTBL=password                              *
       ,PWJOBS=password
END
```

Significance of the parameters:

LOADLIB={ RVS.LOADLIB | dsname }
Dataset name of the rvs load library. Default: LOADLIB=RVS.LOADLIB

DSNKD={ RVS.KD | dsname }
DSNLOG={ RVS.LOG | dsname }
DSNTBL={ RVS.TABLES | dsname }
DSNJOBS={ RVS.JOBS | dsname }
Dataset names of the rvs system files. The default values are the same names as used within this manual.

PWKD=password
PWLOG=password
PWTBL=password
PWJOBS=password

Remarks:
If one (ore more) rvs system datasets shall be password protected, these passwords must be specified here. No problems will occur if passwords are specified and the datasets are not password protected.
The Jobs Dataset (RVS.JOBS) is not necessary. The reason for this is that any PDS may be used in conjunction with automatic jobstart after reception. If the installation of rvs/OS release 3.2 replaces an earlier release of rvs (including extension of the rvs Control Dataset), the specification of the job dataset name is necessary in view of compatibility.
The source library of the installation tape (member JOBRDYN) contains the following sample job for call of macro rvsDYN.

```
//A        JOB
//RVSDYN   EXEC  PGM=ASMA90
//STEPLIB  DD    DSN=SYS1.LINKLIB,DISP=SHR
//SYSLIN   DD    DSN=RVS.DYN,DISP=(NEW,CATLG,DELETE),UNIT=SYSDA,
//             SPACE=(TRK,1)
//SYSPRINT DD    SYSOUT=*
//SYSPUNCH DD    SYSOUT=*
//SYSLIB   DD    DSN=RVS.SOURCE,DISP=SHR
//SYSUT1   DD    UNIT=SYSDA,SPACE=(CYL,1)
//SYSUT2   DD    UNIT=SYSDA,SPACE=(CYL,1)
//SYSUT3   DD    UNIT=SYSDA,SPACE=(CYL,1)
//SYSIN    DD    *
         RVSDYN LOADLIB=RVS.LOADLIB,PWKD=RVSPASS
```

```
        END
/*
```

Execution of this job results in creation of JCL, stored in the dataset "RVS.DYN". This JCL should be modified (jobcard etc.) and executed. For operating system MVS/XA, both, addressing mode (AMODE) and residency mode (RMODE) must be set to 24-bit-addressing.

5.4. Change of dataset names within Tables file

In order to adjust the sample jobs (procedures) of the Tables file to requirements of the installation, the names of the following datasets (unless the names of this manual shall be used) should be changed wherever these names appear in the tables file.

- rvs load library (RVS.LOAD)
- rvs control dataset (RVS.KD)
- rvs log dataset (RVS.LOG)
- rvs tables dataset (RVS.TABLES)
- rvs key dataset (RVS.KEY.DS)
- rvs permission tables dataset (RVS.PTABLES)

5.5. Creation of rvs Control Dataset

The following jobs (members "DEFKD" and “INITKD” of rvs Tables Dataset) may be used to create the control dataset.

```
//A        JOB
//KDDEFINE EXEC  PGM=IDCAMS
//STEPLIB  DD    DSN=SYS1.LINKLIB,DISP=SHR
//SYSPRINT DD    SYSOUT=*
//SYSIN    DD    *
    DEFINE CLUSTER -
           (NAME(RVS.KD) -
           CYL(3 1) -
           VOLUMES(volume) -
           FREESPACE(40 30) -
           KEYS(70 0) -
           SHAREOPTIONS(4 3) -
           RECORDSIZE(550 1000) -
           UNIQUE) -
          DATA -
           (NAME(RVS.KD.DATA) -
           CONTROLINTERVALSIZE(4096)) -
          INDEX -
           (NAME(RVS.KD.INDEX) -
           CONTROLINTERVALSIZE(1024))
/*


//B        JOB
//KDINIT   EXEC  PGM=DF079B00
//STEPLIB  DD    DSN=RVS.LOAD,DISP=SHR
//SYSPRINT DD    SYSOUT=*
//KD       DD    DSN=RVS.KD,DISP=SHR
```

Remarks:
The space for the control dataset has been selected for approx. 30 transmissions per day. If more transmissions are planned or already executed, the space specification must be increased.
The IDCAMS parameter "KEYS", "SHAREOPTIONS" and "RECORDSIZE" should not be modified.
If the specified volume is shared between two or more systems, the control dataset should be created on the same volume where the user catalog (containing the catalog entry for the control dataset) resides.
If you use SMS, please use the job “DEFKDSMS” to create the control dataset.

Warning:
- If catalog and controldataset reside on different volumes in a shared environment, interlock situations and system hang ups may occur.
- If you use KD dataset in SYSPLEX environment, you can get a problem with duplicate indexes. The Problem can occur if a new EXTEND of KD data set is created. Solution: The problem is fixed, if your load library is APF-authorized. If not, you have to use a primary allocation of KD data set which is large enough, to avoid build of new EXTEND for KD data set.

5.6. Creation of rvs Log Dataset

The following job (member "DEFLOG" of rvs Tables Dataset) may be used to create this dataset.

```
//A        JOB
//DEFLOG   EXEC  PGM=DF071A00,PARM='RECORDS=500'
//STEPLIB  DD    DSN=RVS.LOAD,DISP=SHR
//SYSPRINT DD    SYSOUT=*
//rvsLOG   DD    DSN=RVS.LOG,DISP=(NEW,CATLG,DELETE),UNIT=unit,
//             VOL=SER=volume,SPACE=(1000,(501,1))
```

Remarks:
- The space for the Log Dataset has been selected for approx. 30 transmissions per day. If more transmissions are planned or already executed, the space specification (number of blocks) must be increased.
- The number of blocks within the rvsLOG DD statement must specify at least one block more than the "RECORDS" parameter within the EXEC statement.
- Log Dataset and control dataset should reside on different disk volumes (data security in case of a failing disk volume)

5.7. Modification of the rvs Tables file

The Tables file is organized as a PDS. It contains
- different control information used by the rvs monitor
- jobs used for maintenance of the rvs system
- procedures

All members of the rvs Tables Dataset should be treated as sample members. In general, these members must be modified before they can be used by RVS. As far as jobs (procedures) within this file are concerned, most of the required changes are done when changing of dataset names (see chapter 5.4) is complete.

The following members of the Tables Dataset should be checked (modified) one after the other:

CNTL	- rvs Start parameter
JOBCARD	- JCL for copy jobs
RTAPEJC	- JCL for copy jobs
STAPEJC	- JCL for copy jobs
SYSOUTJC	- JCL for copy jobs
MONITOR	- rvs Start Procedure
MSGID	- no changes necessary
PDF0002A	- procedure for display of complete transmissions
PDF0009A	- procedure to delete old records from rvs Controldataset
PDF0014A	- procedure to save rvs Controldataset
PDF0015A	- procedure for recovery of rvs Controldataset
PDF0015B	- procedure for recovery of rvs Controldataset (SMS is used)
PROGPROF	- rvs Program Profile Table (only necessary for spec. profiles)
SESSIONS	- rvs Sessions Table
START	- rvs commands to be executed automatically after start
STATIONS	- rvs Stations Table
PFKEYS	- RMOP PF Keys

The other members of the Tables Dataset are used for optional functions, for example rvs Statistics.
A detailed description of all members containing control information for the rvs Monitor may be found in chapter 6 of this manual.

5.8. Installation of the rvs ISPF panels

The rvs ISPF panels allows access to the control dataset of rvs in a convenient manner. The rvs user may use the panels for:

- Queuing of datasets for transmission
- Display of completed transmissions
- Deletion of send requests
- Creation, update or deletion of resident receive entries

A detailed description of the functionality of the panels may be found in the rvsMVS User's Manual (rvsMVS Benutzerhandbuch). At least ISPF Version 2 Release 3 is required.

There are three system files to install for using the ISPF panels:

- A panel dataset (RVS.ISPF.PANEL) that contains the panel members DF§00P00 to DF550P00. Member DF000P00 contains the primary panel, member DF100P00 contains the panel of option 1 (sending a dataset), etc., member DFA00P00 contains the panel of option A (user authorization) and member DF§00P00 is for internal use only.
- A message dataset (RVS.ISPF.MSGS) that contains all ISPF error/information messages.
- A clist dataset (RVS.ISPF.CLIST) that contains all clists for controlling the panels.

These datasets may be allocated to the DD-names ISPPLIB, ISPMLIB and SYSPROC or respectively copied into existing datasets which are already allocated to these DD-names.
Another possibility is to use a dynamic allocation as layed out on the following page. In this case you only have to specify the variables #DFCLIST, #DFPANEL and #DFMSGS with the appropriate names (e.g. RVS.ISPF.CLIST etc.).
For using the TSO command "rvs" the following member 'RVS.ISPF.CLIST(rvs)' must be inserted in the installation (TSO) command procedure library:

```
/* -- TEST IF CALLED UNDER ISPF ---------------------- */
```

```
      .......

      /* -- DEFINITION OF FIXED VARIABLES ------------------- */
      /* -- PLEASE INSERT YOUR OWN VARIABLES ---------------- */

      SET &#DFLOAD = _________           /* RVS.LOADLIB
*     SET &#DFCLIST= _________           /* RVS.ISPF.CLIST
*     SET &#DFPANEL= _________           /* RVS.ISPF.PANEL
*     SET &#DFMSGS = _________           /* RVS.ISPF.MSGS
      SET &#DFUNIT1= SYSDA
                  /* UNIT FOR TEMP USE IN CLIST DF100C00 (OPT 1) */
      SET &#DFDAYKE= 7
                  /* NUMBER OF DAYS THAT RECORDS ARE KEPT IN THE */
                  /* CONTROLDATASET. REFER TO PARAMETER DAYS= IN */
                  /* PROCEDURE PDF0009A (INST-MANUAL: DELETING   */
                  /* OLD ENTRIES FROM CONTROLDATASET)            */

      SET &#DFLIST = _________           /* STATION-ID LIST
      SET &#DFAKI  = _________           /* CURRENT INFORMATIONS (OPT I)
      SET &#DFALI  = _________           /* GENERAL INFORMATIONS (OPT I)
      SET &#DFUSMAN= _________           /* USER'S MANUAL        (OPT I)

      /* -- LEAVE THE FOLLOWING VARIABLES BLANK ------------------ */
      /* -- USE THEM ONLY FOR TESTING ---------------------------- */
      /* -- VARIABLES ARE TAKEN FROM MODULE "RVS.LOAD(DF067A)" -- */

      SET &#DFKD    =                    /* rvs CONTROL DATASET
      SET &#DFLOG   =                    /* rvs LOG DATASET
      SET &#DFSTATN =                    /* rvs STATIONS TABLE

      /* -- DEFINITION OF PANEL VARIABLES ------------------- */
      /* -- PLEASE INSERT YOUR OWN VARIABLES ---------------- */

      ISPEXEC VGET ( #DFACCT1 #DFACCT2 #DFACCT4 #DFUNIT4 )

      IF  &#DFACCT1 = &Z THEN +
          SET &#DFACCT1 = _________      /* LOCAL ACCOUNT NUMBER (OPT 1)
      IF  &#DFACCT2 = &Z THEN +
          SET &#DFACCT2 = _________      /* REMOTE ACCT NUMBER   (OPT 1)
      IF  &#DFUNIT4 = &Z THEN +
          SET &#DFUNIT4 = _________      /* SYMBOLIC UNIT GROUP  (OPT 4)
      IF  &#DFACCT4 = &Z THEN +
          SET &#DFACCT4 = _________      /* ACCT NR FOR RR-ENTRY (OPT 4)

      ISPEXEC VPUT ( #DFLOAD  #DFLIST  #DFACCT1 #DFACCT2 #DFACCT4 +
                     #DFUNIT1 #DFUNIT4 #DFAKI   #DFALI   #DFUSMAN +
                     #DFKD    #DFLOG   #DFSTATN #DFDAYKE )

*     /* -- ESTABLISH ALLOCATIONS -------------------------- */

*     ISPEXEC LIBDEF ISPPLIB DATASET ID('&#DFPANEL')
*     ISPEXEC LIBDEF ISPMLIB DATASET ID('&#DFMSGS')
*     ALTLIB ACTIVATE APPLICATION(CLIST) DATASET('&#DFCLIST')

      /* -- SELECT rvs ENTRY PANEL -------------------------- */

      IF &SYSISPF = ACTIVE THEN ISPEXEC SELECT PANEL(DF000P00)
      ELSE WRITE PLEASE CALL rvs ONLY UNDER ISPF

*     /* - UNALLOCATE LIBRARIES -- ------------------------- */

*     ISPEXEC LIBDEF ISPPLIB
*     ISPEXEC LIBDEF ISPMLIB
```

Note:

- If you have allocated the clists, panels and msgs to the ISPF DD-names SYSPROC, ISPPLIB and ISPMLIB you can erase the lines marked with an '*'. Be sure to define the RVS.LOADLIB for variable &#DFLOAD.
- If you substitute names smaller than the 'underlined'-fields you must replace the 'underline' by space.
- The station-id list may be the STATIONS TABLE (see chapter 6.2) of your installation. It is not supplied by the rvs software distributors. The list is displayed in the panels only as an information to the user when he insert a question mark in the field STATION ID.
- The variables &#DFAKI, &#DFALI and &#DFUSMAN refer to data sets that contain further information for the rvs users. The data sets are not supplied by the rvs software distributers. The rvs system programmer may supply these data sets or erase option I from the initial panel DF000P00.

You may want to change any panel in your own way just by altering the panel members in the appropriate manner. In most cases you do not have to change the clists, too. So it is quite easy to adjust the layout and the functional restrictions of rvs to your requirements.
E.g. an option I.4 for browsing an user's manual may be supplied for each rvs user. For this you have to create the dataset according to the job for creating additional manuals.

The rvs panels may be used by every TSO user (the panels are explained in detail in the User Manual).
However, there are two restricted functions: deletion of existing send requests and deletion of resident receive entries. These functions are executed only if the TSO user, who requires the deletion, has created the record(s) to be processed. Significant for this comparison is the TSO userid (or jobname, if a record has been created by a batch job).

In order to avoid too much restrictions, it is possible to suppress this restriction for certain TSO users (significance: TSO userid). This can be done in the following way:

Execute the "RVS" command and select option "A" in the entry menue DF000P00. After entering of option "A", the following screen appears (Option "A" is not displayed in the panel):

```
********************************** DFA00P00 ********************************
*            R V S   -   ADD OR CHANGE AUTHORIZATIONS OF RVS-USERS          *
*******************************************************************************
COMMAND ===>


OPTION ===>


         1 - CHANGE PASSWORD

         2 - UPDATE, DELETE OR ADD USER-PROFILE

         3 - DISPLAY USER-PROFILES


PASSWORD ===>            NEW PASSWORD ===>

USERID   ===>
```

The term "USERID" means that a TSO userid is to be specified. The required password has an initial value of "rvs". It may be changed after installation of rvs.

Note:
This password is also used within the logon procedure of the remote operating function (see Appendix G).
With option 1 you may change this password.

If option "2" is selected, the following screen will be displayed (The valid rvs password and a USERID must be supplied for this function):

```
********************************** DFA20P00 ********************************
*            R V S   -   ADD OR CHANGE AUTHORIZATIONS OF RVS-USERS          *
****************************************************************************

INSERT 'A' TO ADD OR ' ' TO DELETE FOLLOWING AUTHORIZATIONS FOR USER XXXXXXX


 . - DELETING SEND-REQUESTS


 . - DELETING OR UPDATING RESIDENT ENTRIES


...
```

Specify the character "A" if authorization for this function is to be defined for a new (or existing) USERID. A new profile will be created only if at least one of the input fields contains the character "A".
If an existing profile is to be deleted, both input fields must be changed to blank characters.

If option "3" is selected, the following screen will appear (the valid rvs password must be supplied for this function).

```
********************************** DFA30P00 *************** ROW 1 TO 2 OF 2
*               R V S   -   DISPLAY AUTHORIZATIONS OF RVS-USERS             *
*****************************************************************************
COMMAND ===>                                                SCROLL ===> PAGE

    USER             SEND-REQUESTS           RESIDENT ENTRIES
-----------------------------------------------------------------------------
   USERID1                  X
   USERID2                  X                        X
****************************** BOTTOM OF DATA ******************************
```

This panels displays all USERID that have any authorization for deletion of SEND- or RESIDENT RECEIVE ENTRIES.

5.9. Creation of rvs Key Data dataset

Creation and Initialization of the rvs Key Data set if Security Feature will be used, see chapter appendix I.

5.10. Installation of the Security Library Data dataset

There are no additional installation steps because all modules necessary for Security Feature of rvsMVS are linked together with the new program 'Service Provider' (DF310A).

5.11. Creation of rvs Permission dataset

See chapter 9.5 for Creation and Initialization of the rvs Permission data set if ULS (User Lever Security Feature) will be used.

5.12. Creation of USP datasets

See chapter 9.6 for Creation and Initialization of the rvs USP datasets if USP (User Separation Feature) will be used.

This page will be intentionally empty.

6. Description of the Tables Dataset

6.1. rvs Start Parameter

The rvs Start Parameters (member "CNTL" of the rvs Tables file) must be coded with keywords.

Most of the parameters have default values. The parameters are separated by comma or one or more blanks. A continuation character is not necessary, but every parameter is to be coded completely in the range of column 1 to 72.

Some of these parameters are mandatory, others are optional. But some of the optional parameters may be useful in order to adjust rvs to installation dependent names, for example the name for a disk unit group.

Changes in Security / Compression Parameters (from version rvsMVS 2.5.11)

- Parameter COMPRESS={EXT|YES|NO} and SECURITY={EXT|YES|NO} are not longer necessary. The SECR/COMP module is active, if it is allowed by licence key (Y | Z) .
- Use COMPRESS=NO and/or SECURITY=NO to switch off security and/or compression although it is allowed by licence key.
- the parameters GPUKID, GPUKNM, GPRKID und GPRKNM are removed.
- There are new parameters to control the allocation of temporary datasets for security/compression: SECRPREF, YPREFIX, YSTORCL, YMAGMCL, YDATACL, YPALLOC, YSALLOC, YUNITC und YUNITN.

Overview of the parameters :

1. General parameters

ACEXIT=name	Name of user accounting exit routine
ACTOFST={49 | nn}	Offset within ACT (to obtain account number)
ACTREL={RVS-ACC | account}	Accounting information for relais stations
BFPOOLRL	Time after which unused buffers are to be released
BFPOOLSZ	Maximum size for the rvs-internal OFTP-bufferpool
CHAPSDS={-N | +N}	Change SDS Task Priority
CHAPRDS={-N | +N}	Change RDS Task Priority
COMPRESS={rvskey | NO}	Indication for the using of the External Compression-Feature
DDEVTYP={TAPE | DISK}	Default devicetype used for receiving
DEMIG={ALLOC | HSM}	Specification for demigration processing
DQPERM={YES | NO}	Permanent display of msg DF4901I (DQ-command)
DSPLEVEL={LOW | MEDIUM | HIGH}	Dispatching level for parallel transmission
DSPTI={60 | nn}	Dispatcher time interval in seconds
DSPTIW	removed with version 2.2.05
EERPAD= {YES | NO}	automatic EERP
EXPDT={yyyyddd | *+nnnn | NONE}	Expiration Date of received datasets
FIRSTLVL={name | NO}	First level pointer of DSN at relais station
GDGTOR={20 | nn}	Maximum number of ENQ requests for a target GDG after receiving a GDG file
GDGTOT={1 | nn}	Time to wait in seconds to get ENQ for a target GDG after receiving a GDG file

JFP={YES | NO}	Jobprotocol in case of failing jobstart
JSSNAME={NONE | OPC}	Selecting Job Scheduling System (write events)
JSSSYSID=name	Job Scheduling Subsystem Id to write events to
LOGDATEF={ddd | mmdd}	Log date format
HLDRESET={NO | (t,o) | (15,p)}	Time interval for releasing send requests from hold status
MAXRPT={05 | nn}	max. number of Compression / Security feature dispatcher receive tasks
MAXSPT={05 | nn}	max. number of Compression / Security feature dispatcher send tasks
MSGID={xx}	rvsMVS message identifier
RELNCTRN={NO | YES}	No code translation in case of routing textfiles (**IMPORTANT**: Please read full description because of problems with backward compatibility)
REPLY={*** rvs OC READY *** | 'text'}	Reply text of rvs monitor
ROUT={08 | nn}	Routing code used for WTO's
SCC={ccc | (cc1,...,ccn)}	System Completion Codes for extended SNAP dump
| SECURITY={rvskey | NO}	Indication for the using of the Security-Feature
SECRPREF={name | TSO USERID}	see YPREFIX
SERIAL={EFPA | EERP}	Trigger of Serialize
SMF={0 | nnn}	SVC number for writing SMF records
SMSMNGCL=name	SMS Management Class
SMSSTOCL=name	SMS Storage Class
SMSDATCL=name	SMS Data Class
STATION={sid | (sid1,sid2,...,sidn)}	Identification(s) of the local (own) station
STORAC={0 | nn}	Time interval for display of used virtuell storage in minutes
TEXTBLSZ={6000| nn}	Blocksize to be used for received TEXT-format files
TEXTLREC={2048| nn}	Max. reclen to be used for received TEXT-format files
TIME={10 | nn}	Interval for status display
TRACE={E | xxx}	Sysout class / dataset name for trace data
TSTAMP={NO | YES}	Timestamp for dataset name at relais station
UCC={uuu | (uu1,...,uun)}	User completion codes
UNIT={SYSDA | unit}	Name of disk unit group
UNTCOUNT={1 | nn}	Unitcount for multivolume datasets
USERSEP = {YES | NO}	USP (User Separation)
VOLUME=volume	Name of a disk receive volume
VWACC={NO | YES}	Accounting information within VW conventions
VWJOBC={NO | YES}	Generated jobnames within VW conventions
YPREFIX={name | TSO USERID}	Prefix for creating the temporary Compression / Security files
YSTORCL=name	Storage_class parameter during creation of temporary Compression / Security files
YMAGMCL=name	Management_class parameter during creation of temporary Compression / Security files
YDATACL=name	Date_class parameter during creation of temporary Compression / Security files
YPALLOC={nnnn | 20 }	primary_allocation parameter during creation of temporary Compression / Security files
YSALLOC={ nnnn | 50 }	secondary_allocation parameter during creation of temporary Compression / Security files
YUNITC={ nn | 10 }	unit_count parameter during creation of temporary Compression / Security files

YUNITN= name	unit_count parameter during creation of temporary Compression / Security files
DSPTIR= { nn | 600 }	Waittime (in seconds) after which the list of resident receive entries in the monitors address space will be refreshed. Starting with version 4.02, a list of all resident receive entries is built during monitor start within the monitors address space. This list is refreshed periodically in order to detect new or changed resident entries. nn may be a value between 5 and 999 seconds, the default value is 10 minutes.

2. Parameters used only for the BSC component

BSCUSE={YES | NO}	Indication for the use of the BSC component

3. Parameters used only for the SNA component

SNAUSE={YES | NO}	Indication for the use of the SNA component
APPLID=name	Application ID of the local (own) station

4. Parameters used only for the X25 component

MAXSVC[.xx]={1 | n}	Max. number of switched virtual circuits
ODID[.xx]=name	Odette identification of the own station
PSIZE[.xx]={128 | nnn}	Packet size of the national X25 network
WSIZE[.xx]={2 | n}	Windowsize for packet layer
XBFSIZE={2000 | nnn}	Max. exchange buffer size
XNUMBER[.xx]=number	calling number of the local multichannel link
X25GROUP=(groupid,n,...,m)	Definition of X25 groups
X25TOT={10 | nn}	timeout interval
X25USE={NO | YES}	Indication for the use of the X25 component

Note:
If you want to support more than one X.25 multi channel links you have to extend some of these parameters by an index (xx=1..32).
For instance: X25NUMBER.1=05361123456
X25NUMBER.12=05361654321

All parameters with same index specify one specific CTCP. The index has to be defined for every mandatory parameter! Optional parameters without index are valid for all defined CTCPs, optional parameters with index are valid for the specified CTCP only.

4.1 Parameters used only for the X25 component via XOT

XOTLOCAD[.xx]= ipaddress	Own ip address of local TCP/IP stack
XOTLPORT[.xx]= {1998 | nn}	Local port number for xot server function
XOTREMAD[.xx]= ipaddress	ip address of xot router
XOTRPORT[.xx]= {1998 | nn}	Port number of xot router
XOTUSE[.xx]= {YES | NO}	Indication for the use of the XOT component
XOTNAME[.xx]= name	(Reference-) name of the defined TCP/IP stack.

4.2 Parameters used only for the X25 component via NPSI

XAPPLID[.xx]=name	Application ID of the local (own) station
XLUNAME[.xx]=name	LU name of the local X.25 multichannel link
XNUMCHCK[.xx]={YES | NO}	checking of incoming call

5. Parameters used only for the LU62 component

LU62USE={NO | YES}	Indication for the use of the LU62 component
LU62MAX={0 | nnn}	max number of sessions
LU62APPL=name	Application ID of the local (own) station
LU62MODE=(mode1,mode2,mode3)	MODE-names for LU62 sessions
ODID=name	Odette identification of the own station
X25TOT={10 | nn}	timeout interval

6. Parameters used only for the TCP/IP component

TCPUSE={NO | YES}	Indication for the use of the TCP/IP component
TCPMAX[.xx]={50 | nnn}	max number of TCP/IP sessions
TCPPORT[.xx]={3305 | nn}	Local port number for server function
TCPLOCAD[.xx]=ipaddress	Own ip address of local TCP/IP stack
TCPNAME[.xx]=name	Name of TCP/IP address space
TCPPROD[.xx]={ IBM | INTERLINK }	Name of the product of the TCP/IP stack to be used.
TCPSTKID[.xx]= name	(Reference-) name of the defined TCP/IP stack.
ODID=name	Odette identification of the own station
X25TOT={10 | nn}	timeout interval for Odette FTP

Note:
If you want to support more than one TCP/IP stack you have to extend some of these parameters by an index (xx=1..32).

All parameters with the same index define one specific TCP/IP stack. If more than one TCP/IP stacks are to be used, the parameters TCPNAME and TCPSTKID are mandatory. If only one TCP/IP stack shall be used, all parameters may be coded whithout index. In this case, index 1 is assigned automatically. Additionally, parameter TCPSTKID is not mandatory in this case.

7. Parameters used only for the FTP component

FTPUSE={NO | YES}	Indication for the use of the FTP component
FTPMAX={50 | nnn}	max. number of parallel transmissions
FTPPOLTI={60 | nnn}	FTP polling task time interval in seconds
FTPPREF=name	user prefix used for FTP file allocations (optional)
ODID=name	Odette identification of the own station

8. Parameters used only for the remote operating function

RMOPAPPL=name	Application ID of the local (own) station

Description of rvs Start Parameters in detail:

General remark:

Some of the rvs start parameters are used not only by the rvs monitor, but also by programs executed in different address spaces (for example rvs ISPF panels). Such programs obtain these values from the rvs control dataset, where the rvs monitor stores the current used parameter values during every run of rvs. Thus if parameter values are changed, they become active for all programs only after the next monitor start.

ACEXIT=name

Name of an user provided accounting exit routine. If no exit routine is installed, this parameter must be omitted. An accounting exit routine may be used to obtain accounting information about all executed transmissions. The interface for this exit is described in appendix A of this manual. A coding example is contained in appendix A also.
Specification of this parameter is independent of the "SMF" parameter (see below).

ACTOFST={49 | nn} nn: value between 49 and 192

Some of the rvs programs (for example rvs ISPF panel programs) try to obtain accounting information from the ACT of the job (tso session), which executes these programs. The accounting information within this system control block is variable (depending on the specified accounting information within the JOB statement. This parameter specifies the displacement (base address: ACT-16), from where an account information shall be obtained by rvs programs (the first accounting parameter is placed at offset 49). For more details, see IBM macros "IEFAJCTB", "IEFAACTB".

ACTREL={RVS-ACC | account}

Accounting information (max. 7 characters) for SMF records created by rvs and/or for user accounting exit, if installed) (see parameters "SMF", "ACEXIT" in this chapter).
This accounting information is used for transmissions, where rvs works as a "relais" station, that means if rvs receives a dataset from a certain station and transmits the same dataset to another station (final receiver).

APPLID=applid (only if SNA component rvs is used)

Application ID of the local (own) station (1-8 alphanumeric characters). This name must be specified in an APPL statement of the local VTAM, see chapter "VTAM definitions". This name must be specified also in the rvs stations table of the remote station(s) (see chapter 6.2) and in the VTAM of the remote station(s) as a cross domain resource (see chapter "VTAM definitions"). If used, this name must be different from those specified for rvs startparameters RMOPAPPL, LU62APPL and XAPPLID.

BFPOOLRL=ttt

Parameter for rvs-internal OFTP bufferpool management. „ttt“ denotes the time in seconds, after which unused buffers of this pool are to be released (freed). Optional parameter.
Default value: BFPOOLRL=20

BFPOOLSZ=sss

Parameter for rvs-internal OFTP bufferpool management. „sss“ denotes the amount of storage in units of 1K, which is to be treated as the maximum size for the bufferpool.
Default value: BFPOOLSZ=2000

BSCUSE={YES | NO}

Specification whether the BSC component is to be used or not. If "BSCUSE=NO" is specified, all commands related to the BSC component (for example commands for activation of BSC-lines or BSC-stations) will be rejected.

CHAPSDS={+N | -N} **N: value between 0 and 9**

Change the SDS Task Priority.
Higher numbers increase the priority.

CHAPRDS={+N | -N} **N: value between 0 and 9**

Change the RDS Task Priority.
Higher numbers increase the priority.

COMPRESS={rvskey | NO}

It specifies how the Compression-Feature is used...
Parameter COMPRESS={EXT|YES} is not longer necessary.
The External Compression module is active, if it is allowed by licence key (Y).
Use COMPRESS=NO to switch off compression although it is allowed by licence key. If "COMPRESS=NO" is specified, the External Compression will be rejected for all send requests of this installation.

DDEVTYP={TAPE | DISK}

Default devicetype used for receiving. This default will always be used if a dataset is received and there are no further specifications for reception of this dataset (resident receive entry, see User's Manual).
"DISK" means that the dataset will be received and kept on disk, "TAPE" means that the dataset is received on disk and will be copied to tape after reception (rvs generates and starts a batch job to copy the received file to tape).

DEMIG={ALLOC | HSM}

Specification how demigration is to be done. DEMIG=ALLOC specifies that a migrated dataset is to be demigrated during allocation processing. The allocation routine will return control to rvs only after demigration of the file is complete. DEMIG=HSM specifies that rvs sends a demigration request to HSM. The transmission will then be cancelled by rvs, a send request will be set into a temporary HOLD status (see HLDRESET parameter).
DEMIG=HSM should be specified if demigration processing takes longer times. In these situations rvs is not forced to wait until demigration is complete. Note that waiting for demigration processing whithin dynamic allocation implies that parallel allocation requests will also wait until demigration is complete, so parallel transmissions are impossible during this time.

DQPERM={YES | NO}

Specification whether message DF4901I (display of all files which are still to be sent, DQ-command) is to be displayed as a highlighted, permanent message (DQPERM=YES) or not. If DQPERM=YES is specified, message DF4901I is changed whenever the send queue changes, this means message DF4901I always displays the actual values. If a change within the send queue is detected all messages DF4901I will be deleted and new ones will be displayed. This function uses the DOM-macro, thus MVS-SP 2.2.0 or a later MVS release is required for this because IBM has made an incompatible change for this macro within MVS-SP 2.2.0.

DSPLEVEL={LOW | MEDIUM | HIGH}

Dispatching level for parallel transmission of datasets with the same name. Started with rvsMVS rel 1.2.07 the internal ENQ name is expanded by the string USD.DUNUSD.TUNUSED, where

USD	- name of the partner station
DUNUSD	- datestamp
TUNUSED	- timestamp.

This values will be substitute by actual values in the following manner:

USD	if DSPLEVEL=MEDIUM or HIGH
DUNUSD.TUNUSED	if DSPLEVEL=HIGH

DSPTI={60 | nn} (Abbreviation: DTI)

Dispatcher time interval in seconds. "nn" may be a value between 5 and 999. This value determines the time interval, after which the rvs dispatcher task becomes active. Every nn seconds, this task looks

- if a previous entered "DIAL" command is to be executed or
- if the rvs control dataset contains send requests, which are to be processed.

If there is a send request for a certain station and if the connection to this station is defined as a

- VTAM connection or
- X25 connection or
- LU62 connection or
- BSC line connection using the automatic dial function

(see chapter 6.2, definition of stations table), the dispatcher task initiates processing of the send requests (if a send session or an autodial line is active and waiting for work). For X25 connections, an outgoing call is initiated in order to activate a switched virtual circuit. If the SNA component, the X25 component and no autodial is used in the installation, the maximum value (DSPTINTV=999) should be specified in order to avoid overhead (access to control dataset). The value of this parameter may be displayed / changed with the rvs command "DSPTI", see Operations Manual.

EERPAD= { YES | NO }

automatic send of EERP. It (AN-Record send) is controlled by parameter DIALOPT. See also new command „DD EERP“.

EXPDT={yyyyddd | *+nnnn | NONE}

With this parameter the expiration date of received datasets is determined.

"yyyy" - year, e.g.: 1998
"ddd" - day, e.g.: 365 , this means 31.12.1998, or
"nnnn" - number of days from the current day on, e.g. "*+30", current date = 1.12.1998, expiration date=31.12.1998

If the parameter EXPDT is specified within a resident receive entry this value will be taken. With "NONE" no expiration date is used for dataset allocation.

FIRSTLVL={name | NO} **(name: 1-8 characters, first must be alpha)**

This parameter is used only for indirect file transfer using a relais station. "name" is a first level qualifier that precedes the dataset name at a relais station. The dataset is allocated under this new name but will be sent with the original name to the final station. So it is possible to protect a dataset - regardless of its name - at a relais station by using a protected first level pointer.

FTPMAX=nnn

This parameter specifies the maximal number of parallel FTP transmissions. nnn may be a value between 0 and 999.

FTPPOLTI ={60 | nnn}

This parameter is used only for the FTP component. Time interval of the FTP polling task (in seconds). "nnn" may be a value between 5 and 999. This value determines the time interval, after which the FTP Polling task becomes active. Every nnn seconds this task looks for FTP control files in the MVS system catalog.

FTPPREF=name

This parameter is used only for the FTP component. This parameter specifies the FTP user prefix name (1-18 characters). All FTP protocol files to be received by rvsMVS have to start with this prefix.

The names of this FTP protocol files looks as following:

prefix.FTPnn.$sid_{origin}$$sid_{next}$.$sid_{destination}$.refnumber

prefix	= value of FTPPREF parameter
FTPnn	= constant value depending on the protocol file
sid_{origin}	= origin station sid
sid_{next}	= sid of direct connected FTP station
$sid_{destination}$	= destination station sid
refnumber	= FTP reference file number

The prefix must comply with the MVS DSName conventions.

Example for a control file name (FTP information file):

- FTPPREF=MVSPREF,
- origin station: AAA
- connected FTP station: BBB
- destination station: CCC

The corresponding protocol file name is:
MVSPREF.FTPHD.AAABBB.CCC.F000123

Optional parameter (it is only used for following protocol files: information file,
response file,
end-to-end-response file).

FTPUSE={NO | YES}

This parameter is used only for the rvsFTP component. It indicates that this component is to be used by rvs. All parameters for this component must be given and a list may be found at the beginning of this section.

GDGTOR ={20 | nn}

Maximum number of ENQ requests for a target GDG after receiving a GDG file.

GDGTOT ={1 | nn}

Time to wait in seconds to get ENQ for a target GDG after receiving a GDG file.

HLDRESET={NO | (t,o) | (15,p)}

This parameter is used for releasing dynamically send requests from hold status without involving any operating. When an abnormal end of transmission occurred and a send request has been put into hold status this parameter provides for an automatic retry of transmission after an appropriate time interval. This does not work if the send request has been put into hold status by operator. You may suppress this automation by specifying 'HLDRESET=NO'.
HLDRESET=(t,o), t= time interval (5-999 min), o: option (e | p (e=equal time interval,
p= progressing time interval))
When e(equal) time interval is specified a send request remains in hold status for t minutes before a next attempt of transmission may be done.
When p(progressing) time interval is chosen the request remains in hold status for t times n minutes where n denotes to the number of unsuccessfull attempts that have already been made.

Examples:

o=e, t=15: After an abnormal end the send request remains in hold status for fifteen minutes before a new attempt may be done (regardless of the number of attempts).

o=p, t=10: After the 1. unsuccessful attempt the send request remains in hold status for ten minutes before a new attempt may be done. After the 2.try the entry remains in hold status for 20 minutes, then for 30 minutes etc.

IDEXIT=name

Name of an user provided identification exit routine. If no identification exit routine is installed, this parameter must be omitted. This exit routine may be used to control (modify) the identification

phase (exchange of station identifications) on switched BSC lines. The interface for this exit is described in appendix A of this manual.

JFP={YES | NO}

Creation of a jobprotocol in case of failing automatic jobstart. The parameter "JFP=YES" provides a notification function if the rvs monitor cannot submit a specified job after reception of a file (for example a specified jobdataset member does not exist or the jobdataset cannot be allocated).
If "JFP=YES" is specified, rvs submits the content of member "JFPJCL" of the rvs tables dataset instead of the job which has been specified in the resident receive entry (for more details see the description of member "JFPJCL" of the tables dataset in this chapter).
Additionally the member "JFPJCL" of the tables dataset must be allocated with DD name "JFPJCL" within the rvs start procedure.

JSSNAME={NONE | OPC}

Write events for this kind of job Scheduling Systems. If 'NONE' is specified, no events are written. Only OPC is realized so far.

JSSSYSID=name max. 4 Chars

Name of Job Scheduling Subsystem (e.g. OPCE) the event is routed to. If this parameter is specified within resident receive entry this field will be taken (see User Manual).

LOGDATEF={ddd | mmdd}

This parameter is used to define the format of the date in logfile.
ddd – day of year (e.g. 038)
mmdd – month day (e.g. 0207)

LU62APPL=applid (only if LU6.2 component rvs is used)

Application ID of the local (own) station (1-8 alphanumeric characters). This name must be specified in an APPL statement of the local VTAM, see chapter 3.4. This name must be specified also in the rvs stations table of the remote station(s) (see chapter 6.2). If used, this name must be different from those specified for the rvs startparameters RMOPAPPL, APPLID and XAPPLID.

LU62MODE={(mode1[,mode2[,mode3]])}

LOGMODE names for the LU62 sessions with the following order:
mode1 - modename for low priority session
mode2 - modename for medium priority session
mode3 - modename for high priority session.
All names must be defined in the LOGMODE table of VTAM for the used application-ID.

Note:

- This names are the default values if no modes are defined in the station table entry of a LU6.2 station.
- This names must be exactly 8 characters long.

LU62MAX ={0 | nnn} **nn: value between 0 and 999**

Max number of sessions for the LU62 component.

LU62USE ={YES | NO}

This parameter is used only for the LU62 component. It indicates that this component is to be used by RVS. All parameters for this component must be given and a list may be found at the beginning of this section.

MAXRPT={1 | nn}

This parameter is used only for the Compression / Security feature component. It specifies the max. number of parallel comp/secr dispatcher receive tasks used by this component. "nn" may be a value between 1 and 99.

MAXSPT={1 | nn}

This parameter is used only for the Compression / Security feature component. It specifies the max. number of parallel comp/secr dispatcher send tasks used by this component. "nn" may be a value between 1 and 99.

MAXSVC[.xx]={1 | n}

This parameter is used only for the X25 component. It specifies the max. number of switched virtual circuits (SVC) to be used by this component. "n" may be a value between 1 and 99. The specified value must not be greater than the number of SVC's which are defined for the multichannel link. SVC's are normally defined within the X25VC macro (parameter LCN).
To support more than one X.25 multi channel links you have to define this parameter for each X.25 multi channel (CTCP).

MSGID=xx

This parameter specifies the first two characters of the message id.

ODID[.xx]={ value | 'value' }

This parameter is used only components which use the ODETTE FTP. It specifies the identification of the own station.

Remark:
ODETTE identifications will be defined and issued by the national automotive associations. Up to now it is not completely clear which organizations will do this work in the different countries. For the Federal Republic of Germany the following address should be consulted:

Verband der Automobilindustrie e.V. (VDA)
Westendstraße 61
Postfach 170563
Kennwort: VDA-AVKD 4914
60079 Frankfurt
Tel.: 069-97507-283
Fax: 069-97507-300
Mail: habild@vda.de

Registration and distribution of ODETTE ID is not free of charge.

If you want to support more than one X.25 multi channel links it is possible to define different own ODETTE identifications for various X.25 multi channel links. Use the Index extension (xx=1..32) in this case. The ODID parameter without Index extension is valid for all defined X.25 multi channel links in your rvs Monitor.

PSIZE[.xx]={128 | nnn}

This parameter is used only for the X25 component. It specifies the packetsize to be used. "nnn" may be one of the values 128, 256 or 512. This value must be the same as specified for parameter MAXPKTL of the X25VCCPT macro (NPSI generation). The specified value must be the same as the value used within the national X.25 network.
To support more than one X.25 multi channel links you have to define this parameter for each X.25 multi channel (CTCP). The parameter without Index extension is valid for all defined X.25 multi cannel links in your rvs Monitor.

RELNCTRN={NO | YES}

This parameter takes effect only if rvsMVS is a relais station. In ODETTE text mode, files are transmitted using ASCII codepage. If rvsMVS is a relais station content of a file was translated from ASCII to EBCDIC during receive and from EBCDIC to ASCII before send. This behaviour can be disabled by setting RELNCTRN to YES. This can avoid corruption of the content caused by code translation.
Enable or disable this feature takes only effect on new transmissions.
IMPORTANT: If rvsMVS is a relais station and there is a text file to be routed without code conversion, it is not possible to downgrade to version 4.05.00 or previous. You can list such files with program DF0145E. Refer installation notes for more information.

REPLY={* rvs OC READY *** | 'text'}**

Text of the rvs ready message on the console. When specifying 'text' the default message will be replaced by your text. The text must be enclosed within quotes and must not exceed 50 characters.

RMOPAPPL=name

This parameter is used only for the "remote operating function". This name must be specified in an APPL statement of the local VTAM. If the SNA component is used, this value must be different from the value specified within the rvs startparameter "APPLID". If this parameter is not coded, the "remote operating function" cannot be used.

ROUT={08 | nn}

Routing code for rvs messages. Selectable between 1 and 15. The value of this parameter may be displayed / changed with the rvs command "ROUT", see Operations Manual.

SCC={ccc | (cc1,...,ccn)}

Specification of system completion codes (in hex), for which an extended SNAP dump of the abended task will be taken. DD statement "rvsDUMP" (see rvs start procedure) is used to write the dump data. If other completion codes occure, only a short SNAP dump will be taken. Completion codes 0C1, 0C4, 0C6 and 0C7 will always result in an extended dump (except the same completion code occures more than one time within one monitor run).

SECRPREF={ name | TSO USERID }

This parameter is used for the compression / security component only. This parameter specifies the user prefix name (1-7 characters). All compression / security temporary files to be created by rvsMVS have to start with this prefix. Alike with the parameter YPREFIX.

SECURITY={rvskey | NO}

It specifies how the Security-Feature is used
Parameter SECURITY={EXT|YES} is not longer necessary. The Security module is active, if it is allowed by licence key (Z) .
Use SECURITY=NO to switch off security although it is allowed by licence key. If "SECURITY=NO" is specified, the Security Feature will be rejected for all send requests of this installation.

Attention!

The parameters GPUKID, GPUKNM, GPRKID und GPRKNM are removed.

SERIAL={EFPA | EERP}

Change Trigger of serialized send entries.

- EFPA - triggered by the ODETTE element End File Positive Answer
- EERP - triggered by the ODETTE element End to End Response

SMF={0 | nnn}

"nnn" denotes the number of an installed User SVC (139-255), which may be used to write SMF records for rvs transmissions. "SMF=0" indicates that no User SMF records are to be written by the rvs monitor.
An example of a SVC used for writing SMF records and the layout of the SMF records (created by the rvs monitor) are included in the source library of the installations tape (members ACTSVC, SMFREC).

SMSMNGCL=name

Name of the SMS management class. For more informations see description of MGMTCLAS parameter in DD statement (JCL Reference). If the parameter MGMTCLAS is specified within a resident receive entry this value will be taken. With "NONE" the management class is not used for dataset allocation.

SMSSTOCL=name

Name of the SMS storage class. For more informations see description of STORCLAS parameter in DD statement (JCL Reference). If the parameter STORCLAS is specified within a resident receive entry this value will be taken. With "NONE" the storage class is not used for dataset allocation.

SMSDATCL=name

Name of the SMS data class. For more informations see description of DATACLAS parameter in DD statement (JCL Reference). If the parameter DATACLAS is specified within a resident receive entry this value will be taken. With "NONE" the data class is not used for dataset allocation.

SNAUSE={YES | NO}

Specification whether the SNA component is to be used or not. If "SNAUSE=NO" is specified, all commands related to the SNA component (for example commands for activation of the SNA subtask or for SNA stations) will be rejected.

STATION={sid | (sid,sid2)}

Identification(s) of the own (local) station. Normally only one station identification must be specified ("sid": 3 alphanumeric characters). This is the station identification by rvs conventions.
One additional identification ("sid2": max. 10 alphanumeric characters) is necessary if communication with the "DAKS" system (Daimler-Benz) is done. This is the station identification by DAKS conventions.

Note:
In order to avoid duplicate rvs station id's the Volkswagen AG has taken the responsibility to administer a central definition table.
Please refer to the following address for receiving a new station id when you install rvs for the first time.

Volkswagen AG
Abt. K-DOI-33
Brieffach 1398/0
D-38436 Wolfsburg

Phone: +49-5631-9-27118, Mr. Strohmeyer
+49-5361-9-76484, Mr. Sekulla
Fax: +49-5361-9-25500

The STATION parameter is mandatory.

STORAC={0 | nn} **nn: value between 0 and 99)**

Specification of a time interval in minutes, after which the virtual storage currently used by the rvs monitor is listed (message DF2000P). If "STORAC=0" is specified, this display will be suppressed. The value of this parameter may be displayed / changed with the rvs command "STORAC, see Operation Manual.

TCPLOCAD[.xx]=ipaddress

Own ip-address of the local TCP/IP stack. This address will be used as source address when rvs acts as an initiator of connections. Specification of this parameter may be useful when the local TCP/IP stack includes more than one ip-address. If this parameter is not coded, the default ip-address of the local TCP/IP stack will be used (shown during initialization of the rvs-TCP/IP control task).
With release 2.5.11, the specified address will also be used for the listen-task of the TCP/IP control task. Incoming connection requests will only be accepted if the connection request is sent to the specified ip-address.
The ip-address for this parameter may be specified as a dotted decimal number or as a symbolic name (dns-name).
Remark: This parameter will be processed only in conjunction with parameter TCPPROD=IBM.

TCPMAX[.xx]={50 | nnn} **nn: value between 50 and 999**

Maximum number of sessions for the specified TCP/IP stack. If the index xx for the stack is not coded, the index value 1 will be automatically assigned.

TCPNAME[.xx]=name

An 8-byte character field set to the name of the TCP/IP address space used for this TCP/IP stack. For IBMs TCP/IP, the task's name of the address space is to be taken. For the TCP/IP product of Interlink, the subsystem identifier (4-byte) must be defined.
If this parameter is not specified and only one TCP/IP stack is used, the system derives a value from the configuration file of the TCP/IP installation. If the index xx for the stack is not coded, the index value 1 will be automatically assigned.

TCPPORT[.xx]={3305 | nn} **nn: value between 0 and 32767**

Local port number used for the TCP/IP server function of the used stack. After start of the specified TCP/IP stack, a server task is automatically started to look for incoming requests for connection. This server task only cares about requests for the specified port number. If the index xx for the stack is not coded, the index value 1 will be automatically assigned.

The default value of 3305 is the port number recommended by the Odette organization which is officially registered by IANA, USA for the OFTP.

TCPPROD[.xx]={IBM | INTERLINK}

This parameter specifies the product name of the TCP/IP stack to be used. rvsMVS supports the stacks of IBM or INTERLINK. If the index xx for the stack is not coded, the index value 1 will be automatically assigned.

TCPSTKID[.xx]=name

Reference name for the specified TCP/IP stack. This name corresponds with the stations table parameter TCPIPADR. Name may be any alphanumeric string with a length of max. 8 bytes. If the index xx for the stack is not coded, the index value 1 will be automatically assigned. If more than one TCP/IP stack shall be used, this parameter must be coded for each stack.

TCPUSE={YES | NO}

This parameter is used only for the TCP/IP component. It indicates that this component is to be used by rvs. In this case during start of the monitor, rvs will check if the other parameters related to the TCP/IP component are completely specified (or if default values are available). If one ore more of these parameters are not specified and if no defaults are available, the TCP/IP component cannot be used. A list of all parameters for this component may be found at the beginning of this section.

TEXTBLSZ={6000 | nn} **nn: value between 9 and 32760)**
TEXTLREC={2048 | nn} **nn: value between 5 and 32756)**

Specification of a blocksize (TEXTBLSZ) or a maximum record length (TEXTLREC) to be used for files, which are to be received as ‚text-format' files. These files are always allocated with record format ‚variable blocked', but the values for maximum record length and blocksize may be specified different from the ODETTE recommendation. These parameters apply only for components, which use the ODETTE FTP as transmission protocol (LU6.2, X.25, TCP/IP). The value for TEXTBLSZ must be greater than (or equal to) TEXTLREC+4.
If a textformat file is to be received which includes records longer than the value of TEXTLREC, the transmission is terminated abnormally, the session is terminated with OFTP reason code 06 (invalid data).

TIME={10 | nn} **nn: value between 1 and 99**

Time interval in minutes, after which the rvs command "DS" is issued automatically (status display for all active BSC lines, SNA-, X.25- and TCP/IP-sessions of the rvs monitor). The value of this parameter may be displayed / changed with the rvs command "TIME“, see Operations Manual.

TRACE={E | pointer}

Specification of a SYSOUT class or dataset name to which data (created by the rvs internal trace) will be written. If only one character is specified, rvs will treat this value as a SYSOUT class specification. If more than one character (max. 8) is specified, rvs treats this value as the first pointer of a dataset, which will be

- allocated dynamically (if not existing) or
- extended (DISP=MOD) (if already existing).

at the time when the trace is started (rvs command "T sid", see Operations Manual. The complete name of this dataset is

- pointer.LINExxx.TRACE if a BSC line is traced and "xxx" is the subchannel address of the line,
- pointer.sid.nm.TRACE if a SNA session to station "sid" is traced ("nm" denotes the session type and number)
- pointer.XMLU.TRACE if the X25 master LU session is traced
- pointer.VCLUnnn.TRACE if the nnn.th virtual circuit LU (SVC) is traced (X25 component only)

- pointer.sid.VCLUnnn.TRACE if the nnn.th virtual circuit LU (SVC) is traced but only data traffic with station "sid" (X25 component only)
- pointer.sid.TRACE if an FTP transmission to station „sid“ is traced

If a dataset is allocated for trace output, the allocation uses the value from the startparameter "UNIT" for the symbolic unit group.

For more information about this trace see the chapter "rvs Trace".

TSTAMP={YES | NO}

This parameter is used only at a realais station for indirect file transfer. A timestamp ".Thhmmsst" is appended to any name of a dataset that is routed over this relais station. The dataset is allocated under this new name but will be sent to the next station under its original name. This is useful in order to prevent datasets of same name to be allocated.

UCC={uuu | (uu1,...,uun)}

Specification of user completion codes (in decimal), for which an extended SNAP dump of the abended task will be taken. DD statement "RVSDUMP" (see rvs start procedure) is used to write the dump data. If other completion codes occur, only a short SNAP dump will be taken.
If the same user completion code occurs more than one time within one monitor run, an extended dump will be created only after the first occurrence of this abend code.

UNIT={SYSDA | unit}

Symbolic name of a disk unit group which will be used by the rvs monitor to allocate datasets during reception if other specifications (resident receive entries, see User Manual) are not available. This parameter is exclusive with the "VOLUME" parameter.
This unit group is also used when a partitioned organized dataset is queued for sending with means of the program DF080A00: The unloaded temporary dataset is allocated on a volume of this unit group.

UNTCOUNT={1 | nn}

Unitcount for multivolume datasets. Starting with version 2.2.05, rvs supports multivolume datasets when files are to be received. The unitcount specifies the maximum number of volumes to be used for files which are to be received. ‚nn‘ may be a value from 1 up to 20.
This parameter is only used for files to be received on work volumes. It is ignored when files are to be received on special volumes or when existing files are to be replaced.
The default value (UNTCOUNT=1) is set because of compatibility with elder rvs versions, but it is recommended to specify the maximum value (UNTCOUNT=20).

USERSEP = {YES | NO}

Enables user separation for the own rvsMVS station.

VOLUME=volume

Name of a disk volume which will be used by the rvs monitor to allocate datasets during receiption if other specifications (resident receive entries, see User Manual) are not available. This parameter is exclusive with the "UNIT" parameter. If both, the VOLUME and UNIT parameter are specified, the UNIT parameter will be ignored. Specification of this parameter causes the rvs monitor to receive all datasets on the specified disk volume with following exceptions:
A resident receive entry (see User Manual) is available and a different receive volume is specified within this entry.
The sending station has specified a different receive volume (remote options, see User Manual) and the local (own) station has authorized the sending (remote) station for this (for authorizations see description of the rvs Stations Table within this manual).

VWACC={NO | YES}

Accounting information within VW conventions

VWJOBC={NO | YES}

"VWJOBC=YES": generated jobnames are within VW conventions. Jobnames are generated if

- a received dataset shall be copied from disk to tape
- a received dataset shall be copied to a SYSOUT class
- a tape dataset (queued for sending) shall be copied from tape to disk before transmission.

"VWJOBC=NO": the jobname specified in member "JOBCARD" of the rvs Tables dataset (used for the above mentioned copy jobs, see chapter 6) will not be changed.

WSIZE[.xx]={2 | n}

This parameter is used only for the X25 component. It specifies the windowsize to be used on packet layer. If LLC4 (GATE) is used (the X25 component of rvs uses this function), the values for parameters MAXPKTL and VWINDOW of macro X25VCCPT are not used. Thus the value for this startparameter of rvs must be the same as the value which is specified for the VWINDOW parameter of the X25VCCPT macro (NPSI generation).

Remark:
This value must be the same as defined by the national X.25 network company for the multichannel link. To support more than one X.25 multi channel links you have to define this parameter for each X.25 multi channel (CTCP). The parameter without Index extension is valid for all defined X.25 multi cannel links in your rvs Monitor.

X25GROUP=(groupid,n,..,m) groupid = max. 8 characters

n,..,m = list of CTCP numbers which should be comprised in this group
This parameter is used to define an X.25 group to comprise several X.25 multi channel links. Use this parameter another time to define more than one X.25 group. It is possible to use the same CTCP number in various groups. The 'groupid' may be referred to by partner stations table entries in parameter X25NUM. (See also chapter 6.2.4 of this manual.)

X25TOT={10 | nn}

This parameter is used only components which use the ODETTE FTP. It specifies the timeout interval (in minutes) which is used by the ODETTE file transfer protocol to control time out situations. "nn" may be a value between 1 and 255.

X25USE={YES | NO}

This parameter is used only for the X25 component. It indicates that this component is to be used by rvs. In this case during start of the monitor, rvs will check if the other parameters related to the X.25 component are completely specified (or if default values are available). If one ore more of these parameters are not specified and if no defaults are available, the X25 component cannot be used. A list of all parameters for the X25 component may be found at the beginning of this section.

XAPPLID[.xx]=name

This parameter is used only for the X25 component. This name must be specified in an APPL statement of the local VTAM. If the SNA component or the remote operating function (or both) is used, this value must be different from the values specified within the rvs startparameters "APPLID" and "RMOPAPPL". This application id is used to establish sessions between rvs and the NPSI. To support more than one X.25 multi channel links you have to define this parameter for each X.25 multi channel (CTCP).

XBFSIZE={2000 | nnn}

This parameter is used only for the X25 component. It specifies the max. exchange buffer size to be used by rvs, "nnn" may be a value between 128 and 32000. This parameter corresponds with two other values:

- Parameter "LBLKSIZE" within the rvs stations table for stations defined to use the X.25 network (stations table parameter "ACCESMET=X25"). If the value of parameter "LBLKSIZE" is greater than the value of parameter "XBFSIZE", the value for "LBLKSIZE" will be reduced to the value of "XBFSIZE" automatically during start of rvs. Thus the value of parameter "XBFSIZE" is always the maximum size of exchange buffers used for X25 stations.
- For the set of switched virtual circuits to be used by rvs, a definition of a "switched major node" within VTAM is required. The value for the "MAXDATA" parameter of the "PU" macro within the switched major node definition must always be greater than the value for the rvs start parameter "XBFSIZE".

XLUNAME[.xx]=name

This parameter is used only for the X25 component. It specifies the name of the logical unit which is used to establish a controlsession between rvs (application as specified within the "XAPPLID" parameter) and the NPSI. "name" must be the same name as specified for parameter "LUNAME" of macro "X25MCH" during NPSI generation. To support more than one X.25 multi channel links you have to define this parameter for each X.25 multi channel (CTCP).

XNUMBER[.xx]=number

This parameter is used only for the X25 component. It specifies the calling number of the local X.25 multichannel link. This number is used when outgoing calls are initiated by rvs. To support more than one X.25 multi channel links you have to define this parameter for each X.25 multi channel (CTCP).

XNUMCHCK[.xx]={YES | NO}

This parameter is used only for the X25 component. It indicates whether a received X25 number is to be checked with the number specified within the stations table (parameter X25NUM) in case of an incoming call from a certain station (XNUMCHCK=YES) or not.
If XNUMCHCK=YES is specified and the x25 number (received from a certain station by an incoming call) does not match the number which is specified for this station within the rvs stations table, activation of the session will be rejected, this means the received ODETTE data unit "SSID" will be responded by an "ESID" data unit (end of session) with reason code 03 (user code not known or invalid).
See also corresponding parameter XNUMCHCK of rvs stations table (x.25 entry) To support more than one X.25 multi channel links you have to define this parameter for each X.25 multi channel (CTCP). The parameter without Index extension is valid for all defined X.25 multi channel links in your rvs Monitor.

XOTLOCAD[.xx]=ipaddress

Own ip-address of the local TCP/IP stack. The specified address will be used by the XOT listener task to accept incoming connections from XOT capable hardware (e.g. XOT- Router).
The ip-address for this parameter may be specified as a dotted decimal number or as a symbolic name (dns-name).
If this parameter is not coded, the default ip-address of the local TCP/IP stack will be used.

XOTLPORT[.xx]={1998 | nn} **nn: value between 0 and 32767**

Local port number used for the XOT server function. The specified number will be used by the XOT listener task to accept incoming connections from XOT capable hardware (e.g. XOT- Router).
The default value of 1998 is the port number recommended by the XOT- RFC 1613.
If the index xx is not coded, the index value 1 will be automatically assigned.

XOTNAME[.xx]=name

Reference name for the specified TCP/IP stack. If the parameter is not specified the default TCP/IP stack will be used. The Name may be any alphanumeric string with a length of max. 8 bytes.
If the index xx for the stack is not coded, the index value 1 will be automatically assigned.

XOTREMAD[.xx]=ipaddress

Remote ip-address of the XOT capable hardware (e.g. XOT- Router), used by the XOT communication task to establish a connection.
The ip-address for this parameter may be specified as a dotted decimal number or as a symbolic name (dns-name).

XOTRPORT[.xx]={1998 | nn} **nn: value between 0 and 32767**

Remote port number of the XOT capable hardware (e.g. XOT- Router), used by the XOT communication task to establish a connection.
The default value of 1998 is the port number recommended by the XOT- RFC 1613.
If the index xx is not coded, the index value 1 will be automatically assigned.

XOTUSE={YES | NO}

This parameter is used for the X25 component only. It indicates the use of X.25 via XOT (in case of YES) or X.25 via NPSI (in case of NO) as X.25 network.

YPREFIX={ name | TSO USERID }

This parameter is used for the compression / security component only. This parameter specifies the user prefix name (1-7 characters). All compression / security temporary files to be created by rvsMVS have to start with this prefix. Alike with the parameter SECRPREF.

YSTORCL=name

This parameter is used for the security component only. This parameter specifies the name of the SMS storage class used for the allocation of the compression / security temporary files. If not defined, the value of the parameter SMSSTOCL will be used. If both parameters (YSTORCL and SMSSTOCL) are not defined, the default value is “NONE”. With value „NONE“ no storage class is used.

YMAGMCL=name

This parameter is used for the security component only. This parameter specifies the name of the SMS management class used for the allocation compression / security temporary files. If not defined, the value of the parameter SMSMNGCL will be used. If both parameters (YMAGMCL and SMSMNGCL) are not defined, the default value is “NONE”. With value „NONE“ no management class is used.

YDATACL=name

This parameter is used for the security component only. This parameter specifies the name of the SMS data class used for the allocation Compression / Security temporary files. If not defined, the value of parameter SMSDATCL is used. If both parameters (YDATACL and SMSDATCL) are not defined, the default value is “NONE”. With value „NONE“ no data class is used.

YPALLOC={nnnn | 20 }

This parameter is used for the security component only. This parameter specifies the primary allocation in cylinders for allocation Compression / Security temporary files. ‚nnnn‘ may be a value from 1 up to 9999.

YSALLOC={ nnnn | 50 }

This parameter is used for the security component only. This parameter specifies the secondary allocation in cylinders for allocation Compression / Security temporary files. ‚nnnn‘ may be a value from 1 up to 9999.

YUNITC={ nn | 10 }

This parameter is used for the security component only. This parameter specifies the unit count for multivolume datasets used for allocation Compression / Security temporary files. ‚nn' may be a value from 1 up to 20. If not defined, then the value of parameter UNTCOUNT is used. If both parameters (YUNITC and UNTCOUNT) are not defined, the default value is 10.

YUNITN=name

This parameter is used for the security component only. This parameter specifies the symbolic name of a disk unit group which will be used for allocation Compression / Security temporary files. If not defined, then the value of parameter UNIT is used. If both parameters (YUNITN and UNIT) are not defined, the default value is SYSDA.

6.1.1. Example for definitions to support more X.25 multi channel links

1. Example (Definition of three X.25 multi channel links using different networks)

```
   |<----------------- 72 characters ---------------------------------->|<-8->|
   |****************************** TOP OF DATA ******************************|
   |*                                                                    |     |
   |...                                                                  |     |
   |X25USE=YES                                                           |     |
   |ODID='O0013000001VW      RVS'                                        |     |
   |*********************************************************************|     |
 1.|* Definition for CTCP 1 (ISDN)                                       |     |
   |*********************************************************************|     |
   |XAPPLID.1=AVARVSG1                                                   |     |
   |XLUNAME.1=XVWA0TR1                                                   |     |
   |XNUMBER.1=0536112345                                                 |     |
   |PSIZE.1=128                                                          |     |
   |WSIZE.1=7                                                            |     |
   |MAXSVC.1=1                                                           |     |
   |XNUMCHCK.1=NO                                                        |     |
   |*********************************************************************|     |
 2.|* Definition for CTCP 2 (ISDN)                                       |     |
   |*********************************************************************|     |
   |XAPPLID.2=AVARVSG2                                                   |     |
   |XLUNAME.2=XVWA0TR1                                                   |     |
   |XNUMBER.2=0536123456                                                 |     |
   |PSIZE.2=128                                                          |     |
   |WSIZE.2=7                                                            |     |
   |MAXSVC.2=1                                                           |     |
   |XNUMCHCK.2=NO                                                        |     |
   |*********************************************************************|     |
 3.|* Definition for CTCP 10 (X.25)                                      |     |
   |*********************************************************************|     |
   |XAPPLID.10=AVARVSG4                                                  |     |
   |XLUNAME.10=XVWG0TR1                                                  |     |
   |XNUMBER.10=45536120002                                               |     |
   |PSIZE.10=256                                                         |     |
   |WSIZE.10=2                                                           |     |
   |MAXSVC.10=15                                                         |     |
   |XNUMCHCK.10=YES                                                      |     |
   |*********************************************************************|     |
 4.|* Definition for CTCP 11 (XOT)                                       |     |
   |*********************************************************************|     |
   |XOTUSE.11=YES                                                        |     |
   |XOTLOCAD.11=192.168.0.1                                              |     |
   |XOTLPORT.11=1998                                                     |     |
   |XOTREMAD.11=192.168.0.2                                              |     |
   |XOTRPORT.11=1998                                                     |     |
   |XNUMBER.11=45536120002                                               |     |
   |PSIZE.11=128                                                         |     |
   |WSIZE.11=7                                                           |     |
   |MAXSVC.11=15                                                         |     |
   |*********************************************************************|     |
 5.|* Definition of X.25/XOT groups                                      |     |
   |*********************************************************************|     |
   |X25GROUP=(ISDN1,1)                                                   |     |
   |X25GROUP=(ISDN2,2)                                                   |     |
   |X25GROUP=(ISDN,1,2)                                                  |     |
   |X25GROUP=(X25,10)                                                    |     |
   |X25GROUP=(XOT,11)                                                    |     |
   |***************************** BOTTOM OF DATA ****************************|
```

1./2. Definition of two X.25 multi channel links which should use ISDN The parameters to describe CTCP 1 and CTCP 2 are specified by index 1 / index 2.

3. Definition of an X.25 multi channell link which should use X.25 as network. The index number to specify the CTCP is 10.

4. Definition of an XOT link which should use X.25 as network. The index number to specify the CTCP is 11.

5. Definition of X.25 groups to comprise various X.25 multi channel links. For instance 'ISDN' specifies a group consisting of CTCP 1 and CTCP 2; 'X25' specifies a group consisting of CTCP 10.

This page will be intentionally empty.

6.2. rvs Stations Table

Different Types of Stations Table Entries

The Stations Table contains 'Station Entries' and 'Line Entries' (only if BTAM/BSC switched lines are used).

Station Entries

Each remote station must have a 'Station Entry'. Depending on the kind of connection, different subsets of parameters are valid.

- **Direct Station Entry** — The remote station is directly connected

  Parameters subsets:

BSC station:	subset 0, chapt. 6.2.0, subset 1, chapt. 6.2.1
SNA station:	subset 0, chapt. 6.2.0, subset 2, chapt. 6.2.2
stations using ODETTE FTP:	subset 3, chapt. 6.2.3
X.25 station:	subset 0, chapt. 6.2.0, subset 4, chapt. 6.2.4
LU6.2 station:	subset 0, chapt. 6.2.0, subset 5, chapt. 6.2.5
TCP/IP station:	subset 0, chapt. 6.2.0, subset 6, chapt. 6.2.6
FTP station	subset 0, chapt. 6.2.0, subset 7, chapt. 6.2.7

- **Indirect Station Entry** — The remote station is indirectly connected, transfer runs via a relais station. The relais station itself must exist as a 'Direct Station Entry'.

  Parameter subset:

VIA station:	subset 0, chapt. 6.2.0, subset 8, chapt. 6.2.8

Line Entries

Each BSC switched line needs its own entry within the Stations Table.

Parameter subset:

BSC switched line:	subset 9, chapter 6.2.9

If you want to define more than one accessmethod for one station, (for example X25,ISTATUS=INACTIVE and BSC,ISTATUS=ACTIVE) you have to code one complete entry for each accessmethod.

All of the parameters, except tp-accessmethod (ACME) may be changed even if rvs system is executing. See rvsMVS Operation Manual: 'Modification of station parameters'

Conditions for encoding the parameters

- The parameters are coded with keywords. They are separated by commas or blanks.
- Each line can be used from column 1 to 72. A continuation character is not necessary.
- A comment line has to be signed by a '*' in the first column.
- The first parameter of each Station Entry must be 'SID'. All other parameters may be coded in any sequence.
- The first parameter of each Line Entry must be 'LINE'. All other allowed parameters can appear in any sequence.
- Starting with rvsMVS 1.2.10 the following additional rules are valid for encoding of parameters:

  comment within a line
  all characters inside a line behind a character '*' will be interpreted as a comment. This implies, that none of the specified parameter values should include the character '*'.

  continuation lines
  some parameters consist of a list of single values, separated by comma. This value list must be enclosed by apostrophs or parenthesises. Now this value list may be coded on different (up to 16) lines.

  Note that only parenthesis may be used for nested structures. Apostrophs may only be used to delimit strings which do not include any other apostrophs.

  If a parameter shall be coded on different lines, the keyword and the left delimiter of the parameter value (apostroph or parenthesis) must be coded within one line.

6.2.0. Subset 0 (general parameters valid for all stations)

The following table shows general parameters which are needed by nearly all station table entries:

Long	short	Definition	BSC	SNA	FTP	X.25 LU6.2 TCP	VIA	ULS Entry local	ULS entry remote
ACCOUNT	ACCT	station account	X	X	X	X	-	-	-
ACTCLASS	-	Accounting classification	-	X	-	X	-	-	-
ALIASSID	ASID	alias identification	X	X	X	X	-	-	-
AUTODIAL	AD	automatic dial	X	-	X	X	-	-	-
BACKUP	BCKP	backup station identification	X	X	X	X	-	-	-
COMPRESS	-	Type of Compression Feature for this station	-	-	-	X	-	O	O
CSVER	-	Header version of external (Compression/Security) Feature for this station	-	-	-	X	-	O	O
DIALOPTS	DOPTS	options for automatic dial	X	-	X	X	-	-	-
DIALOPT2	DOPT2	times for mandatory automatic dial	X	-	X	X	-	-	-
DIALOPT3	DOPT3	polling function for automatic dial	X	-	X	X	-	-	-
DOPTS#..	D#..	options for automatic dial (spec.day)	X	-	X	X	-	-	-
EERPIN	-	Handling of incoming EERPs	-	-	-	X	-	-	-
EERPOUT	-	Handling of outgoing EERPs	-	-	-	X	-	-	-
ISTATUS	-	initial status of stations entry	X	X	X	X	-	-	-
NORELAIS	-	suppression of routing	-	X	-	X	X	-	-
ODETID	OID	ODETTE identification	X	X	X	X	X	X	X
OPTIONS	OPTS	authorization for remote job proc.	X	X	X	X	-	-	-
PHONE	-	telephone number (only comment)	X	X	X	X	X	-	-
SECURITY	-	Usage of Security Feature for this station	-	-	-	X	-	O	O
(!) SID	-	rvs station identification	X	X	X	X	X	X	X
TYPE	-	Type of the station (e.g. if the station is a virtual station).	-	-	-	-	-	X	-
ULS	-	Usage of User Level Security	-	-	-	X	-	-	-
USP	-	Usage of User Separation	-	-	-	X	-	-	-

(!) - mandatory parameter

Description of rvs Station Table Parameters in detail:

⎡ ACCOUNT ⎤
⎢ ⎥ = account **account = 1..8 chars**
⎣ ACCT ⎦

Account of remote station. This value is taken when a dataset is to be received and no account is transmitted by the sender and no RR entry account exists. No default value.

ACTCLASS=(type,distance)

Account classification for the connection with the remote station. This parameter is used only if the rvs startparameter SMF is also coded. The classification consists of the linetype (L=leased, S=switched) and a specification for the distance (L=local, F=far distance, I=international).
Default: ACTCLASS=(S,L). For more information see description of the SMF accounting record in the rvs source library (RVS.SOURCE).

⎧ ADDRESS ⎫
⎨ ⎬='text-string' **text-string = max. 20 chars**
⎩ ADDR ⎭

Address of the station. Optional parameter.
The text-string must be put into quotes. Within the quotes all characters (blanks, commas etc.) are allowed and will not be recognized as delimiters. The maximal length of the string is 20 characters. ADDRESS is only comment and can be shown on the console by the operator-command 'X-sid'.

⎧ ALIASSID ⎫
⎨ ⎬=sid **sid = 3 characters**
⎩ ASID ⎭

Alternative station identification. Optional parameter. This parameter can be used to address the remote station by a second name.
No default value.

⎧ AUTODIAL ⎫
⎨ ⎬={ Y[ES]/N[O] }
⎩ AD ⎭

Automatic dial. Optional parameter.

Automatic dial will be initiated if
- a dataset is queued for sending (see DIALOPTS)
- a certain time of day is reached (see DIALOPT2)
- a specified polling interval is reached (see DIALOPT3)
  - the operator sets up a command to call the station (see rvsMVS Operation Manual, "A sid" command)

⎧ BACKUP ⎫
⎨ ⎬={sid | (sid1,sid2,...)} **sid = 3 characters**
⎩ BCKP ⎭

Backup station identification(s). Optional parameter.
In addition to a direct connection it could be necessary to have an alternative way to the final station (e.g. for backup). With 'BACKUP' one can define one or more relais stations for indirect transmission.

Note :
The transmission via backup station is blocked until one of them is switched on by a special operator command (see 'F-sid,VIA=...' command, rvsMVS Operation Manual).

COMPRESS={ OFTP | NO | GZIP } - new

COMPRESS={ OFTP | YES | NO | RVS | GZIP | EXT } - old

The GZIP compression can be enabled / diabled by:

1. License key
2. rvs-Stationstabellen-Parameter COMPRESS= OFTP / YES / NO / RVS / GZIP / EXT
3. during call of DF080A00 (create send request): GZIP= YES / NO

At first the GZIP-compression is controlled by the rvsMVS license key.
A rvs-Startparameter, that this function switches on/off, is not necessary. Because of compatibility the rvs-Startparameter COMPRESS is accepted, but ignored in function. It is set rvs-intern to corresponding value of the license key.
If the GZIP-function is not available in license key and if parameter COMPRESS=GZIP is used in STATIONS, this parameter is ignored (error message is written).
If the user uses the parameter GZIP=YES at the create of send request, this is also ignored (error message is written).

The rvs-stationtable parameter COMPRESS=OFTP / YES / NO / GZIP / EXT determines the default value for all transfers with this station.
This default becomes always effective if the user doesn't use the GZIP-parameter during create of send request.

COMPRESS=OFTP: this means that OFTP compression is used
COMPRESS=YES: equal like COMPRESS=OFTP (Compatibility)
COMPRESS=NO: this means no compressing
COMPRESS=GZIP: this means GZIP-compression (external feature)
COMPRESS=EXT equal like COMPRESS=GZIP (Compatibility).
Default value of the station parameter is COMPRESS=YES.

The user can also control the use of the GZIP compression via the parameter GZIP={YES / NO} in the program DF080A00.

Because of compatibility the previous DF080A00-parameter COMPRESS= {YES / NO / RVS / EXT} is accepted, too.
The values of this parameter are handled as follows:
COMPRESS=YES is converted in GZIP=NO.
COMPRESS=NO is converted in GZIP=NO.
COMPRESS=RVS is converted in GZIP=YES.
COMPRESS=EXT is converted in GZIP=YES.

The table shows the combinations of the parameters and its results (assume, that the compression feature is enabled by license key.)

Station Parameter COMPRESS	**GZIP Parameter in DF080A00**	**Result**
unspecified	unspecified	OFTP-Compression
unspecified	GZIP=NO	OFTP-Compression
unspecified	GZIP=YES	OFTP-Compression (with message)

COMPRESS=OFTP	unspecified	OFTP-Compression
COMPRESS=OFTP	GZIP=NO	OFTP-Compression
COMPRESS=OFTP	GZIP=YES	OFTP-Compression (with message)
COMPRESS=NO	unspecified	no Compression
COMPRESS=NO	GZIP=NO	no Compression
COMPRESS=NO	GZIP=YES	no Compression (with message)
COMPRESS=GZIP	unspecified	GZIP-Compression
COMPRESS=GZIP	GZIP=NO	OFTP-Compression
COMPRESS=GZIP	GZIP=YES	GZIP-Compression

Note:

The GZIP compression is used as “end to end” file transfer. That means, compressed files are not influenced by routing station.

If "COMPRESS=NO" is specified, the Compression Feature will be rejected for all send requests to this station.

If COMPRESS=GZIP is specified, the OFTP compression procedure will be replaced by the **External Compression** procedure based on the GZIP (rfc1952) algorithm. **This feature will be called 'rvs® External Compression' and works with routing inside of an OFTP network.** Both end partners with rvs® have to select this offline feature.

CSVER={ 1 | 2 }

Header version of external (Compression/Security) Feature.
Since rvsMVS 3.00 the support for files greater than 2 GByte for encryption / compression is added.

Use CSVER=2 for station, which supports files greater than 2 GByte for encryption / compression.

⎧ DIALOPTS ⎫
⎨ ⎬=\{(ti,rt) | (ti1,rt1,ti2,rt2,ti3,rt3,ti4,rt4)\}
⎩ DOPTS ⎭

Options for automatic dial. Optional parameter. Dial will be initiated automatically if a dataset is queued for sending. See also DIALOPT2, DIALOPT3 and ACTOPTS.

ti,ti1,ti2,..
specifies the time intervals in which automatic dial will be active (dialing starts only if a send request for the remote station is queued). Start time and end time must be written in hours and minutes.
Syntax : ti=hh:mm-hh:mm

Default value is '00:00-24:00'.

rt,rt1,rt2,..

specifies the retry time. The retry time is the duration the program waits for dialing again, after the last try was performed.
Allowed values : 1 - 255 min.
Default value is '60' minutes.

The parameters must be put in brackets, separated by comma. Maximal input are four combinations of intervall and retry time.

Examples:
DIALOPTS=(11:15-12:00,5)
DOPTS=(11:15-12:00,5,14:02-17:00,10)

Note:
Do not specify time interval beyond midnight, seperate it:
Instead DOPTS=(23:00-06:00,5) use DOPTS=(23:00-24:00,5,00:00-06:00,5)

DIALOPT2 | DOPT2 ={dt | (dt1,dt2,dt3,dt4)}

Times for mandatory automatic dial. Optional parameter.
Dial will be initiated automatically if a certain time of day is reached. See also DIALOPTS, DIALOPT3 and ACTOPTS.

dt,dt1,dt2...
times of automatic dial, indicates when the remote station is to be called (dialed) one time (no retry). This function is useful for recalling datasets from a remote station at certain times of day. Up to four different times may be defined.
Syntax: dt=hh:mm,

Examples:
DIALOPT2=14:08,
DOPT2=(14:08,15:40)

No default value.

DIALOPT3 | DOPT3 ={(t1-t2,r)}

Polling interval for automatic dial. Optional parameter.

„t1-t2“ denote a time interval, "r" a retry time for this interval. Similar to the DIALOPT2 parameter, this parameter provides a polling function in view of establishing a connection. A dial request is generated automatically every "r" minutes within the specified time interval, regardless of any send requests.

Syntax: t1=hh:mm, t2=hh:mm, r=value between 1 and 255 (minutes)

Examples:
DIALOPT3=(07:30-20:40,20)
DOPT3=(20:00-06:30,8)

No default value.

⎡ DOPTS#xx | D#xx ⎤
⎢ ⎥
⎣ DOPTSy | Dy ⎦= (ti,rt)/(ti1,rt1,ti2,rt2,ti3,rt3,ti4,rt4)

Options for automatic dial for specific day of week. Optional parameter.
Parameter "xx" - name of day.

Day	"xx" english notation	"xx" german notation	"y"
Monday	"MO"	"MO"	"1"
Tuesday	"TU"	"DI"	"2"
Wednesday	"WE"	"MI"	"3"
Thursday	"TH"	"DO"	"4"
Friday	"FR"	"FR"	"5"
Saturday	"SA"	"SA"	"6"
Sunday	"SU"	"SO"	"7"

Parameters "ti" and "rt" like in DIALOPTS(DOPTS) parameter.
Default value: no.

Examples :

```
DIALOPTS=(11:15-12:00,5)
DOPTS#DI=(08:00-09:00,1,16:00-17:00,1)
DOPTS#MI=(08:00-09:00,1,16:00-17:00,1,23:00-24:00,1)
```

is equivalent to:

```
DIALOPTS=(11:15-12:00,5)
DOPTS#TU=(08:00-09:00,1,16:00-17:00,1)
DOPTS#WE=(08:00-09:00,1,16:00-17:00,1,23:00-24:00,1)
```

is equivalent to:

```
DOPTS=(11:15-12:00,5)
D2=(08:00-09:00,1,16:00-17:00,1)
D3=(08:00-09:00,1,16:00-17:00,1,23:00-24:00,1)
```

EERPIN = {NEVER | NORMAL}

If this option is set to NEVER, a transmission gets status END after sending a file successfully. No end-to-end response (EERP) is expected.
If this option is set to NORMAL, an EERP is expected for a sent file.

EERPOUT = {NEVER | NORMAL}

If this option is set to NEVER, no end-to-end response (EERP) will be send after receiving a file successfully.
If this option is set to NORMAL, an EERP will be sent after receiving a file successfully.

ISTATUS = { A[CTIVE] / I[NACTIVE] }

Initial status of the station. Optional parameter.
'Inactive' stations are not able to establish a connection/session. Connection/session requests from or to an 'inactive' station will be rejected. This parameter is not valid for BTAM/BSC leased lines.

NORELAIS=sid

Suppression of routing to the final destination 'sid'. This parameter may be used to reject receiving of files which are sent by the remote station with the destination 'sid'. Receiving of files with other destination than 'sid' will not be rejected.
Remark: if 'sid' specifies the station-ID of the own (local) station, receiving of all files from the remote station with this destination will be rejected. In this case the remote station may only send files via the local station to other destinations.

⎧ ODETID ⎫
⎨ ⎬='Odette-id' **Odette-id = max. 25 chars.**
⎩ OID ⎭

Odette identification of remote station. The Odette-id must be put into quotes if it contains blanks.
No default value.
Mandatory parameter if you use VDA FTP 4914/1.

ODETTE identifications will be defined and issued by the national automotive associations. For the Federal Republic of Germany the following address should be consulted:

Verband der Automobilindustrie e.V. (VDA)
Westendstraße 61
Postfach 170563
Kennwort: VDA-AVKD 4914
60079 Frankfurt
Tel.: 069-97507-283
Fax: 069-97507-300
Mail: habild@vda.de

Registration and distribution of ODETTE ID is not free of charge.

⎧ OPTIONS ⎫
⎨ ⎬={NO | RJOB | RJE | ROPT | REPL | ALL}
⎩ OPTS ⎭

Authorization for remote job processing. Optional parameter.
Single and combined values are allowed.

OPTS=NO:	No authorization for remote job processing.
OPTS=RJOB:	Remote job processing is allowed.
OPTS=RJE:	RJE-output may be requeued. [1]
OPTS=ROPT:	Remote options (DISPR,DEVR,UNITR,VOLR) will be processed
OPTS=REPL:	Replace function is authorized.
OPTS=ALL:	Full authorisation.

[1] Only usable with a special software (Output Writer) distributed by VW.

Example for combined values :

OPTS=(RJOB,RJE) : Remote job processing and requeuing is possible.

PHONE ='text-string' text-string = max. 16 chars.

Telephone number of the final station. Optional parameter.
The text-string must be put into quotes. Within the quotes all characters (blanks, commas etc.) are allowed and will not be recognized as delimiters. The maximal length of the string is 16 characters. The telephone number is only comment and can be shown on the console by the operator command 'X-sid'.
No default value.

SECURITY={EXT | NO}

The external feature security can be enabled / diabled by::

1. License key
2. rvs-Stationstabellen-Parameter SECURITY= EXT / NO
3. parameter during create of send request (DF080A00): SECURITY= EXT / NO

At first the external feature security is controlled by the rvsMVS license key.
A rvs-Startparameter, that this function switches on/off, is not necessary. Because of compatibility the rvs-Startparameter SECURITY is accepted, but ignored in function. It is set rvs-intern to corresponding value of the license key.
If the the external feature security is not available in license key and if parameter SECURITY=EXT is used in STATIONS, this parameter is ignored (error message is written). If the user uses the parameter SECURITY=EXT during create of send request, this is also ignored (error message is written).

The rvs-stationtable parameter SECURITY= EXT / NO determines the default value for all transfers with this station.
This default becomes always effective if the user doesn't use the SECURITY parameter during create of send request.

SECURITY=EXT: this means external feature security is used.
SECUTITY=NO: this means no security
Default value of the station parameter: SECURITY=NO.

The user can also control the use of the external security via the parameter SECURITY ={EXT / NO} in the program DF080A00.

The table shows the combinations of the parameters and its results (assume, that the external security feature is enabled by license key.)

Station Parameter SECURITY	SECURITY Parameter in DF080A00	Result
unspecified	unspecified	no Encryption
unspecified	SECURITY=NO	no Encryption
unspecified	SECURITY=EXT	no Encryption (with hint at users)

SECURITY=NO	unspecified	no Encryption
SECURITY=NO	SECURITY=NO	no Encryption
SECURITY=NO	SECURITY=EXT	no Encryption (with hint at users)
SECURITY=EXT	unspecified	External Encryption
SECURITY=EXT	SECURITY=NO	no Encryption
SECURITY=EXT	SECURITY=EXT	External Encryption

Routing:

The external feature security is a function which is always used as 'end - end' – function. This means that the external feature security is not performed if the destination is not the own station. Encrypted files are not influenced by routing station.

SID=sid **sid = 3 characters**

rvs station identification. Mandatory parameter. Must be the first parameter of each station entry.
rvs station ID's must be unique within a net of TP connections. See chapter 6.1 rvs Startparameter, parameter STATION.
For inhouse connections rvs station ID's are freely selectable. If the rvs station ID is used only for rvs internal reference (not for identification on the line, for example in case of communication with DAKS, see parameter DBID), the rvs station ID is freely selectable also. But in these cases the ID's should start with one of the following characters: D, F, H, K, M, Q, T, W. ID's starting with the character $ and the names "ALL", "BSC", "SNA", "X25", "TCP" , “FTP“ and "RVS" are reserved for rvs internal use.

No default value.

TYPE=VIRT

If you want to use User Level Security (ULS) you need virtual stations (TYPE=VIRT). This kind of station represents different users of your local real station (CNTL member). Real stations are your local station and the neighbour stations, that are reachable in the OFTP network (real stations are non virtual stations) .
A local virtual station has one owner and possibly some users as station members. This mapping between users and a station is only possible for virtual stations. A real station don’t have users.
When a user creates a send entry, the user table will be checked and if the user ID a part of it, the founded virtual station will be used as originator.
The virtual station definition consists of the parameters SID, TYPE and ODETID.

Example:

```
SID=U11, TYPE=VIRT, ODETID='O0013003210GEDAS R11U11'
```

A virtual station is identified by its ODETTE-ID. This ODETTE-ID needs not to be officially requested. It must be unique in your communication area (on your system and on your partners’ systems).

A local virtual station (e.g. U11) should be defined as a routed station at your partner (reachable via your local station (e.g. R11).

Example:

```
SID=VST,ADDR='VIRTUAL STATION OF R11', ODETID='O0013003210GEDAS B212U11',
VIA=R11
```

Note: The parameters SECURITY and COMPRESS stands only for security and compression between real stations (not between virtual stations).

For defining permission rules for virtual stations, users and file transmissions it is necessary to create a user and a permission table. For more information please read the chapter 6.12.

Step-by-step instructions how to use User Level Security (ULS) are given in chapter 9.5.

ULS={YES | NO}

This parameter have to be set to YES for the real neighbour stations with which you want to use User Level Security. See the chapters 6.12 and 9.5 for further information.

USERSEP = {YES | NO}
(USP)

Enables the user separation for the remote station.

6.2.1. Subset 1 (valid for BSC Entries)

long	short	definition
ACCESMET	ACME	TP access method
ACTMODE	ACTM	activation mode
CONTALG	-	algorithm in case of contention
DBID	-	Daimler-Benz station identification
DIALNUM	DNUM	dial number for autodial
(!) FTP	-	name of File Transfer Protocol
IDENQ	-	sid and enquiry within one string
LBLKSIZE	LSIZE	line blocksize
LINETYPE	LT	linetype (switched/leased)
RECVPW	RPW	receive password(s)
SENDPW	SPW	send password
SPEED	-	speed of transmission
(!) SUBCHANL	SCNL	Subchannel addresses (=line addresses)
UCBNAME	-	Physical line address (leased lines only)

(!) - mandatory parameter

Note:
Additional to these parameters subset 0 must be specified!

Description of rvs Station Table Parameters in detail:

⎡ ACCESMET ⎤
⎢ ⎥ = { B[TAM]}
⎣ ACME ⎦

TP access method. Must be BTAM. This parameter may be omitted because it is the default.

⎡ ACTMODE ⎤
⎢ ⎥ = { N[ORMAL] | A[LL] | S[PECIAL] }
⎣ ACTM ⎦

Activation mode of line control. Optional parameter.

ACTMODE=NORMAL:	line control can be activated by every activation command except 'A-ALL'. 'NORMAL' is default.
ACTMODE=ALL:	line control can be activated explicit or by an A-ALL command.
ACTMODE=SPECIAL:	line control of this station has to be activated under declaration of the line address.

Operator commands 'Activation of BSC lines' see chapt. 5.5 of the rvsMVS Operation Manual.

CONTALG ={ALG1 | ALG2}

Algorithm in case of contention situation. Optional parameter.
ALG1 The first operation on the line after contention is a "write".
ALG2 The first operation on the line after contention is a "read".

DBID =cc **cc = 1-10 characters**

Daimler-Benz station identification. Only necessary for communications with Daimler-Benz.
Stations using DAKS (Datenaustausch-Kommunikations-System of DB) identify themselve by a (up to) 10 characters long identification number. The 'DBID' is only necessary for the identification phase - for further handling the Daimler-Benz station will be recognized within your rvs system by its rvs station-id (Parameter SID).

DIALNUM
DNUM **=cc** **cc = string of max. 20 characters**

Telephone number for automatic dial. Mandatory if AUTODIAL=YES. (Note: Autodial is mandatory for FTP=4914/1)

If the dial interface is V.25bis, only the number to be dialed has to be coded.

If the dial interface is V.25, the number to be dialed has to be extended in the following way:
For "Datex-L" lines from the "Deutsche Bundespost", the characters "C3" must be added to the number. Character "C" is an indication for the dialing hardware that the end of the number to be dialed is reached. Character "3" is an indication for the contol unit (37x5) that the end of the number to be passed to the dial hardware is reached.
If the public telephone network is used, it may be necessary (depending on the automatic calling unit) that the telephone number is preceeded by character "D" (waiting for indication from the network, that a number may be dialed, german: Freizeichen abwarten). The characters "C3" must be added to the number as well as for "Datex-L" lines.

Examples:
The number of Datex-L line 5361829 must be specified by "DIALNUM=5361829C3", the telephone number 05361-123456 must be specified by "DIALNUM=D05361123456C3".

Remark:
If the remote station has more than one line which may be used for transmissions, specification of a second (or third,...) dialnumber might be useful. In this case a second (third,...) stations entry should be coded.
The only difference between the additional station entries for one remote station should be the different dialnumbers.

FTP =ftpname

Name of File Transfer Protocol. Mandatory Parameter
If you use switched lines the FTP parameter will substitute the old PROGPROF parameter (for leased line the PROGPROF parameter is valid further on).

Following FTP's are supported by rvsMVS/BSC :

4914/0	VDA File Transfer Protocol (April '85) no blocking, no restart, no password exchange
4914/1	VDA File Transfer Protocol (March '88) no blocking, no restart, with password exchange, autodial mandatory
rvsMVS	rvs Internal Protocol of VOLKSWAGEN AG, for exclusive use with rvsMVS stations, with blocking, restart and password exchange
rvsDOS	rvs Internal Protocol of VOLKSWAGEN AG, for exclusive use with rvs-DOS stations
rvsRPG	rvs Internal Protocol of VOLKSWAGEN AG, for exclusive use with rvs-RPG stations
VW-FTP-B1.0	Open Protocol of VOLKSWAGEN AG, published in 'rvsMVS Interface Description', no restart, no blocking
VW-FTP-B1.1	Open Protocol of VOLKSWAGEN AG, see 'rvsMVS Interf. Descript.', with blocked transmission mode
VW-FTP-B2.1	Open Protocol of VOLKSWAGEN AG, see 'rvsMVS Interf. Descript.', with blocking and restart
VW-FTP-B3.0	Open Protocol of VOLKSWAGEN AG, see 'rvsMVS Interf. Descript.', RJE-procedure similar to 2780

IDENQ = { YES | NO }

The remote station may send its identification together with the BSC control character "enquiry" (X'2D') within one string. Optional.
IDENQ=NO can be defined if the remote station sends it's ID in a separate control record.
IDENQ=YES enables rvs to receive the remote station-id and enquiry (X'2D') in one string. This is necessary for some remote stations, which must send their ID together with the enquiry. IDENQ=YES works also if the remote station sends a separate control record for the station-ID, but rvs internal tables might overflow if more than 255 station entries with IDENQ=YES on the same subchannel are defined.

{ LBLKSIZE | LSIZE }={400..2000}

Line blocksize for transmission. Optional parameter. Allowed are values from 400 up to 2000 bytes.

⎡ LINETYPE ⎤
⎢ ⎥=⎧S⎪L⎫
⎣ LT ⎦

Linetype. Optional parameter.
Valid values are 'S' for switched and 'L' for leased line. Note: A BSC switched line needs an own entry within your Stations Table (see "Line Entry", subset 9).

LONGID ='long-id'

same as ODETID

⎡ PROGPROF ⎤
⎢ ⎥= ppname ppname = 3 chars.
⎣ PPROF ⎦

Name of the user defined program profile, no default value
For more information and an example please look for this manual into appendix H: rvsMVS Tables

⎡ RECVPW ⎤
⎢ ⎥=⎧pw⎪(pw1,pw2) 0 pw,pw1,pw2 = 1-8 characters
⎣ RPW ⎦

Receive-passwords. Optional parameter (mandatory for FTP=4914/1). One or two passwords which will be compared with the password sent by the remote station.
No default value.

⎡ SENDPW ⎤
⎢ ⎥=pw pw = 1-8 characters
⎣ SPW ⎦

Send-Password. Optional parameter (mandatory for FTP=4914/1). Password will be sent to the remote station.
No default value.

SPEED={LOW | HIGH}

Transmission speed. Mandatory for low speed lines (1200 bps).
SPEED=LOW If switched lines with 1200 bps are used.
SPEED=HIGH If lines with more than 1200 bps are used.

⎡ SUBCHANL ⎤
⎢ ⎥=⎧sc⎪(sc1,sc2,...)⎫ sc,sc1,sc2 = 3 characters, the first
⎣ SCNL ⎦ character must be '0'

Subchannel or line address. Mandatory parameter.
One or more different alternative and parallel used addresses may be specified.
No default value, see also parameter UCBNAME.

UCBNAME={nnn | nnnn} **nnn = BTAM subchannel address (3 digit UCB)**
nnnn = BTAM subchannel address (4 digit UCB)

This is a second way to define the subchannel or line address for leased lines. Here you are able to define three or four digit line addresses without rvs-restrictions. The value defined in parameter SUBCHANL will be used as alias name for this line or subchannel.
Default value is the value defined in parameter SUBCHANL.

This page will be intentionally empty.

6.2.2. Subset 2 (valid for SNA Entries)

	Long	short	Definition
(!)	ACCESMET	ACME	TP access method
	ACTMODE	ACTM	activation mode
	ACTOPTS	-	opts for auto-activation
	AUTOACT	-	automatic session activation (observation)
	AUTODIAL	AD	Removed
	JSUBRESP	-	Removed
	LBLKSIZE	LSIZE	line blocksize
(!)	LUNAME	LU	logical unit name for VTAM
	RECVPW	RPW	receive password(s)
	SENDPW	SPW	send password
(!)	SESPROF	SPROF	name of VTAM session profile
	TYPE	-	partner characterization
	USERID	UID	USERID of rvsWIN user

(!) - mandatory parameter

Note:
Additional to these parameters subset 0 must be specified!

Description of rvs Station Table Parameters in detail:

⎡ ACCESMET ⎤
⎢ ⎥={ V[TAM]}
⎣ ACME ⎦

TP access method must be VTAM. Mandatory parameter.

⎡ ACTMODE ⎤
⎢ ⎥={ N[ORMAL] | A[LL] }
⎣ ACTM ⎦

Activation mode of session control. Optional parameter.
ACTMODE=NORMAL: sessions can be activated by every activation command except 'A-ALL'. 'NORMAL' is default.
ACTMODE=ALL: sessions can be activated explicit or by an A-ALL command.

Operator commands 'Activation of sessions' see chapter 5.6 of rvsMVS Operation Manual.

ACTOPTS={ (tw,rt) | (tw1,rt1, tw2,rt2, tw3,rt3, tw4,rt4) }

Options for automatic activation (see AUTOACT) of sessions. Optional parameter.

tw,tw1,tw2,..
specifies the time windows when AUTOACT is active. Start time and end time must be written in hours and minutes.
Syntax : tw=hh:mm-hh:mm
Default value is '00:00-24:00'.

rt,rt1,rt2,..
specifies the AUTOACT retry time. The retry time is a delay for the program to try the activation again. The retry time is of no meaning if the last attempt was successful. If last establishing of the session fails, the next attempt starts after retry time has elapsed.
To avoid loops, retry values less than 5 minutes are not allowed.
Allowed values: 5 - 255 min. Default value is '60' minutes. The parameters must be put in brackets, separated by comma. Maximal input are four combinations of tw and rt.
Example: ACTOPTS=(11:15-12:00,5,14:02-17:00,10)

AUTOACT={ ON | OFF }

Autoactivation of SNA sessions. Optional parameter.
Sessions will be automatically re-activated after an abnormal or normal end. The reactivation starts not immediately, but after a specified delay time (see ACTOPTS).
Autoactivation is suppressed after the operator has terminated the session by a stop command. Autoact function works again if the operator starts the session again.
Note: The autoact function will work only if the VTAM control task is active (see command "A RVSVTAM" in the Operation manual).

⎧ LBLKSIZE ⎫
⎨ ⎬={128..2000}
⎩ LSIZE ⎭

Line blocksize for transmission. Optional parameter.
Allowed are values from 128 up to 2000 bytes.

Note:
For connections with PU type 2 computers, the used line blocksize must be smaller than the value for the MAXDATA parameter of the LU macro (VTAM definition for the remote side).

Default values for LU1 is 261 bytes and for LU2 265 bytes.

⎧ LUNAME ⎫
⎨ ⎬={luname | applid} **luname/applid = 1-8 characters**
⎩ LU ⎭

Mandatory parameter.
It is possible to put in this field the name of a logical unit as well as an application identification of the remote station.

⎧ RECVPW ⎫
⎨ ⎬={pw | (pw1,pw2) 0 **pw,pw1,pw2 = 1-8 characters**
⎩ RPW ⎭

Receive-passwords. Optional parameter (mandatory for FTP=4914/1). One or two passwords which will be compared with the password sent by the remote station.
No default value.

⎧ SENDPW ⎫

{ }=pw **pw = 1-8 characters**
(SPW)

Send-Password. Optional parameter.
Password will be sent to the remote station.
No default value.

[SESPROF]
{ }=sprof **sprof = 3 characters**
(SPROF)

Name of SNA session profile. Mandatory parameter.
No default value.

TYPE=WIN-3270

Mandatory parameter for remote stations using rvsWIN. rvsWIN is a file tranfer product for PC under MS-WINDOWS using SNA 3270 protocol.
E.g.:

```
SID=PC1,ADDR='PC Nr. 1'      or     SID=PC2,ADDR='PC Nr. 2'
       TYPE=WIN-3270                       TYPE=WIN-3270
       RECVPW=PSW_PC1                      USERID=USER_PC2
```

It is not necessary to define an LUNAME, any LUNAME is accepted. The entry is used for both directions SEND and RECEIVE. The access to rvsMVS is controlled by either checking the password RECVPW only (example PC1) or checking the RACF userid USERID in combination with a valid RACF password (PC2). The type of checking depends on whether RECVPW or USERID is specified and is done in exit DFUX002 (see appendix A).

[USERID]
{ }=userid **userid = 1-8 characters**
(UID)

Userid of rvsWIN station user, see above.

This page will be intentionally empty.

6.2.3. Subset 3 (valid for station entries using ODETTE FTP)

Long	Short	Definition
COMPRESS	-	Indication for use of OFTP compression
CREDIT	-	credit of data exchange buffer
DIRECTN	-	transmission direction
EERPEXTR	EER	name of EERP receive user exit
(!) ODETID	OID	ODETTE identification
OWNOID	-	ODETTE identification of own station
(!) RECVPW	RPW	receive password(s)
(!) SENDPW	SPW	send password
SFIDEXTR	SFR	name of SFID receive user exit
SFIDEXTS	SFS	name of SFID send user exit
SPCLOGIC	-	special logic
SSIDEXTR	SSR	name of SSID receive user exit
SSIDEXTS	SSS	name of SSID send user exit
TYPE=MVS	-	Specification of remote station (used for PDS-Transfer)

(!) - mandatory parameter

Description of rvs Station Table Parameters in detail:

COMPRESS={YES | RVS | NO}

OFTP compression. Optional parameter.
The parameter indicates whether the compression method defined for the OFTP is to be used or not.
Default value: COMPRESS=YES

Note:
- This parameter works together with the general compression parameter, please refer to chapter 6.2.0

CREDIT={1..10..999}

Data exchange buffer credits. Optional parameter.
Allowed are values between 1 and 999. The specified number of exchange buffers can be sent consecutively by the sender without response of the receiver.

DIRECTN={S | R | B | P}

Transmission direction. Optional parameter.
This attribute specifies whether the local station wants only to SEND (S) files, RECEIVE (R) files or do BOTH (B) functions during one session.
P stands for 'PAY ONLY FOR SEND DATA' and implicits the value BOTH if the local station is responder and the value SEND if the local station is initiator of the session.

EERPEXTR=name

Name of the EERP_Receive_User_Exit. See appendix A.6 for more details of using the exit.

No default value.

⎡ ODETID ⎤
⎢ ⎥='Odette-id' **Odette-id = max. 25 chars.**
⎣ OID ⎦

Odette identification of remote station. Mandatory parameter.
The Odette-id must be put into quotes if it contains blanks.
No default value.
ODETTE identifications will be defined and issued by the national automotive associations. Up to now it is not completely clear which organizations will do this work in the different countries. For the Federal Republic of Germany the following address should be consulted:

Verband der Automobilindustrie e.V. (VDA)
Westendstraße 61
Postfach 170563
Kennwort: VDA-AVKD 4914
60079 Frankfurt
Tel.: 069-97507-283
Fax: 069-97507-300
Mail: habild@vda.de

Registration and distribution of ODETTE ID is not free of charge.

OWNOID='Odette-id' **Odette-id = max. 25 chars.**

Odette identification of own station.
The Odette-id must be put into quotes if it contains blanks.
No default value.
This parameter may be used if a special own ODETTE identification other than the own specified in the start parameter ODID is requested by the partner.
This parameter may only be specified in main station entries, not for sub entries.

⎡ RECVPW ⎤
⎢ ⎥={pw | (pw1,pw2) 0 **pw,pw1,pw2 = 1-8 characters**
⎣ RPW ⎦

Receive-passwords. Mandatory parameter.
One or two passwords which will be compared with the password sent by the remote station.
No default value.

⎡ SENDPW ⎤
⎢ ⎥=pw **pw = 1-8 characters**
⎣ SPW ⎦

Send-Password. Mandatory parameter. Password will be sent to the remote station. (The ODETTE protocol requires a password exchange)
No default value.

SFIDEXTR=name

Name of the SFID_Receive_User_Exit.
See appendix A.6 for more details of using the exit.
No default value.

SFIDEXTS=name

Name of the SFID_Send_User_Exit.
See appendix A.6 for more details of using the exit.
No default value.

SPCLOGIC={YES | NO}

Special logic support. Optional parameter.
Some stations (asynchronous links) need support of special logic like calculation of Block Sequence Number,Block CheckSum etc.
'YES' means the remote station needs special logic,
'NO' means the remote station don't need special logic.

SSIDEXTR=name

Name of the SSID_Receive_User_Exit.
See appendix A.6 for more details of using the exit.
No default value.

TYPE=MVS

Specification of remote station. This parameter must be coded if the function ‚PDS-Transfer' or the function VDSN up to 44 characters shall be used with the remote station. An additional requirement for the use of this function is the installation of rvsMVS 2.2.00 or a following version on both sides.
No default value.

SSIDEXTS=name

Name of the SSID_Send_User_Exit.
See appendix A.6 for more details of using the exit.
No default value.

This page will be intentionally empty.

6.2.4. Subset 4 (valid for X.25/XOT Direct Entries)

	Long	Short	definition
(!)	ACCESMET	ACME	TP access method
	LBLKSIZE	LSIZE	line blocksize
	PAD1	-	modification of X.28 parameters
	TYPE	-	type of connection
	XNUMCHCK	-	checking of remote X25 number
	X25CUD	-	X.25 call user data field
	X25FAC	-	facility field (e.g. for closed user group)
(!)	X25NUM	-	X.25 call number of the remote station
	X25PSIZE	PSIZE	X.25 packet size
	X25SESS	-	Max. number of parallel sessions to remote station
	X25WSIZE	WSIZE	X.25 window size

(!) - mandatory parameter

Note:
The X.25 component uses the ODETTE FTP (OFTP). Additional to these parameters subset 0 and subset 3 must be specified!

If you want to support more than one X.25 multi channel links you have to extend some of this parameters by an index (1..32).
For instance:

```
X25NUM.1=05361123456
X25NUM.12=05361654321
```

All parameters with the same index specify one CTCP. Mandatory parameters you have to define for each CTCP! Optionally parameters without index are valid for all defined CTCPs, optional parameters with an index are valid for the specified CTCP only.

Description of rvs Station Table Parameters in detail:

⎧ ACCESMET ⎫
⎨ ⎬={ X[25]}
⎩ ACME ⎭

Access method must be X25. Mandatory parameter.

⎧ LBLKSIZE ⎫
⎨ ⎬={128..2000}
⎩ LSIZE ⎭

Line blocksize for transmission. Optional parameter. Allowed are values from 128 up to 2000 bytes.

Note:
The LSIZE value may be reduced to the max. exchange buffersize value (see rvs startparameter "XBFSIZE").

⎡ **PAD1** ⎤
⎨ ⎬**='xx:zz ,... '** **xx = X.28 parameter number**
⎣ **PAD2** ⎦ **zz = X.28 parameter value**

Optional parameters.
You can modify the international X.28 parameters by using these fields.
PAD1 defines the X.28 parameters from 1 to 12 and
PAD2 defines the X.28 parameters from 13 to 22.

If you want to change any X.28 parameter please define it in the following way:

PAD1='1:1'	for X.28 parameter 1
PAD1='1:1,2:1'	for X.28 parameter 1 and 2
...	
PAD2='13:1,21:1'	for X.28 parameters 13 and 21

X.28 parameters correspond to ODETTE Revision 1.3

If you have specified TYPE=PAD for your partner, these parameters are defined as default.

TYPE=PAD **type of X.25 connection**

This parameter must be coded if the communication with the remote station is done via an X.25 PAD.
No default value.

XNUMCHCK={YES | NO}

Checking of remote X.25 number in case of an incoming call. Optional parameter.
If XNUMCHCK=YES is coded and an incoming call is received, the X.25 number of the received call indication packet is compared with the value of parameter X25NUM of this station.
In case of different values activation of the session will be rejected, this means the received ODETTE data unit "SSID" will be responded by an "ESID" data unit (end of session) with reason code 03 (user code not known or invalid).
If XNUMCHCK=NO is coded, no checking will be performed.
Default: If parameter XNUMCHCK is not coded, the value specified for the rvs start parameter XNUMCHCK will be used.

X25CUD[.nn] = ⎡ **cc** ⎤ **cc = 1..16 characters**
⎨ ⎬ **XX = 1..16 bytes (hex notation)**
⎣ **'XX'** ⎦ **nn = 1..99** [2]

Call User Data of X.25 call request packet. Optional parameter.
This field could be useful to select the remote CTCP

- if there is more than one CTCP assigned to the same multichannel link
- or if subaddressing is not used.

Care should be taken when using this field, because the first byte of the Call User Data are commonly interpreted as protocol identifier. For example X'C3' is used to select SNA-QLLC services, X'01' is the identifier for PAD connections and X'CC' is for TCP/IP running over X.25. X'C4' is reserved for SNA-ELLC protocol connections.

[2] To support more than one X.25 numbers for one partner station nn specifies the partner number index. If there is no index defined, the parameter will be used for all X.25 numbers within this station table entry.

Function of the X25CUD parameter:
Outgoing calls will be provided with a Call User Data field within the X.25 call request packet. So you have to know the value expected by the remote station.
If X25CUD is not coded, the CUD field of the call packet will be omitted.

Incoming calls will be routed by default to your rvs-CTCP if CUD of the call packet is omitted
But: If the default values (for CTCP selection) within your NPSI generation have been overriden (possible with NPSI Version 1, Rel.4.3) other values may be valid.

X25NUM[.nn] = { x25num | (x25num,x25group) }

x25num = max.15 characters
x25group = max. 8 characters
nn = 1..99 [3]

X.25 number (Germany: Datex-P Rufnummer).

If you want to support more than one X.25 multi channel links in your rvs monitor, it is possible to comprise several links to groups. You can reach partners by more than one link automatically. In this case you have to define such X.25 groups as rvs Start Parameter (member "CNTL" of the rvs Tables file).
Each defined X.25 group consists of a group name (up to eight alphanumeric characters) and a list of the numbers of the multi channel links, which should be comprised in this group.
For instance:

```
X25GROUP=(ISDN,1,3,4)
```

In the partner stations table entry this group may be refered to by specifying this group name additional in X25NUM parameter.
For instance:

```
X25NUM=(0123456789,ISDN)
```

When dialing out rvsMVS looks for a not busy line among the specified links. In case of receiving a CLEAR-packet after dialing to a partner number rvs will dial to the next defined partner number automatically.

X25FAC [.nn] =cc **cc = 1..128 characters**
nn = 1..99 [3]

Facility fields of X.25 call request packet. Optional parameter.
This field could be useful to select an closed user group or any other facilities of X.25.
Example: Select closed used group

```
X25FAC='0312'
```

byte 0-1: basicversion
byte 2-3: reference number of this closed user group

For more information above facility fields contact your national telecommunication and network provider.

{ X25PSIZE[.nn] } = { 128 | 256 | 512 }

[3] To support more than one X.25 numbers for one partner station nn specifies the partner number index. If there is no index defined, the parameter will be used for all X.25 numbers within this station table entry.

⌊ PSIZE[.nn] ⌋ nn = 1..99 [3]

Optional parameter. Do not specify it for general use.
The start parameter PSIZE is taken as default.

X.25 packet size sent in call request packet. With this parameter it is possible to negotiate the flow control parameter packet size with the remote station. The value may not exceed the value of the start parameter PSIZE.

X25SESS [.nn] =ss ss = 1..64
nn = 1..99 [4]

Maximum number of parallel sessions to the remote station. Local and remote station should specify the same value for this parameter.
Default value: X25SESS=1.

⌈ X25WSIZE[.nn] ⌉
{ }= { 2...7 }
⌊ WSIZE[.nn] ⌋ nn = 1..99 [5]

Optional parameter. If not specified the start parameter WSIZE is taken.
X.25 window size sent in call request packet. With this parameter it is possible to negotiate the flow control parameter window size with the remote station.
E.g.: Start parameter WSIZE is 7 but a remote station may only use a value of 2. In this case specify X25SIZE=2 for this station.

[4] To support more than one X.25 numbers for one partner station nn specifies the partner number index. If there is no index defined, the parameter will be used for all X.25 numbers within this station table entry.
[5] To support more than one X.25 numbers for one partner station nn specifies the partner number index. If there is no index defined, the parameter will be used for all X.25 numbers within this station table entry.

6.2.5. Subset 5 (valid for LU 6.2 stations)

Long	Short	Definition
(!) ACCESMET	ACME	TP access method
CONVTYP	-	conversation type (mapped/basic)
HOLDSESS	-	option for session status if nothing to send
LBLKSIZE	LSIZE	line blocksize
(!) LUNAME	LU	logical unit name
LU62MODE	-	LOGMODE names for LU62 sessions
SESSNUM	-	limit of sessions
SYNCLVL	-	synchronization level
(!) TPN	-	transaction program name

(!) - mandatory parameter

Note:
The LU 6.2 component uses the ODETTE FTP (OFTP). Additional to these parameters subset 0 and subset 3 must be specified!

Description of rvs Station Table Parameters in detail:

⎧ ACCESMET ⎫
⎨ ⎬={ L[U62]}
⎩ ACME ⎭

Access method must be LU62. Mandatory parameter.

CONVTYP={ MAPPED | BASIC }

Conversation type. Optional parameter.
The rvs APPC support can use either conversation type BASIC or MAPPED.
As an initiator, the conversation type to use is taken from the definition of the station to call.
As a responder, the conversation type to use is picked up from the allocation request and adherd to.

Note:
Only partner stations running portable rvs support 'MAPPED'.

⎧ LBLKSIZE ⎫
⎨ ⎬={100..2000}
⎩ LSIZE ⎭

Line blocksize for transmission. Optional parameter. Allowed are values from 100 up to 2000 bytes.

Note:
The LSIZE value may be reduced to the max. exchange buffersize value (see rvs startparameter "XBFSIZE").

⎡ LUNAME ⎤
⎢ ⎥
⎣ LU ⎦ =luname **luname = 8 characters**

Mandatory parameter.
Name of the logical unit of the remote station.

Note:
VTAM requires LU names of full 8 characters length.

LU62MODE={ (mode1, mode2, mode3) }

LOGMODE names for the LU62 sessions with the following order:
mode1 - modename for low priority session
mode2 - modename for medium priority session
mode3 modename for high priority session.

All names must be defined in the LOGMODE table of VTAM for the used application-ID. The names must be precisely 8 characters long.

Note:
This LU62MODE names defined in the LU62 station table entry have a higher priority than the names of the rvs start parameter. If your partner station is running 'portable rvs' for non-MVS machines, only one mode (mode1) is presently supported.

SESSNUM=(ll,mm,hh)

Maximum number of protocol sessions of each priority, which might be active at the same time. Optional parameter.
ll = max. number of low priority sessions
mm = max. number of medium priority sessions
hh = max. number of high priority sessions
The limit of all sessions together is ll+mm+hh = 16383. Only even values should be specified. Odd values will be rounded up to even values.
Default value is SESSNUM=(2,2,2)

Note:
If your partner station is a non-MVS system running 'portable rvs', only the session value for low priority is supported.

SYNCLVL={ NONE | CONFIRM }

Synchronization level. Optional parameter.
The rvs APPC support can use either None or Confirm as the synchronization level. The prefered level is NONE. A value of CONFIRM will reduce transmission speed and create additional overhead.

TPN=name **name = 1..64 chars.**

Transaction program name of remote station.
Mandatory parameter. No default value.

TPN indicates the name of the program to which a conversation is requested.
Important for your remote partner : To select the service of the Odette File Transfer Protocol of rvsMVS he has to use the following TP-name value : 'RVSOFTP'
If your partner station is a non-MVS system running 'portable rvs' the TP-name is 'RVSRCV'.

This page will be intentionally empty.

6.2.6. Subset 6 (valid for TCP/IP Direct Entries)

Long	Short	definition
(!) ACCESMET	ACME TP	access method
LBLKSIZE	LSIZE	line blocksize
TCPIPADR	-	remote IP address
TCPIPCHK	-	check remote IP address
TCPPORT	-	remote port number
TCPSESS	-	max number of parallel sessions

(!) - mandatory parameter

Note:
The TCP/IP component uses the ODETTE FTP (OFTP). Additional to these parameters subset 0 and subset 3 must be specified!

Description of rvs Station Table Parameters in detail:

⎧ ACCESMET ⎫
⎨ ⎬={ T[CP]}
⎩ ACME ⎭

Access method must be TCP. Mandatory parameter.

⎧ LBLKSIZE ⎫
⎨ ⎬={128..2000..32760}
⎩ LSIZE ⎭

Max. exchange buffer size used for transmissions. Optional parameter.
Allowed are values from 128 up to 32760 bytes.

TCPIPADR={ ipaddr | (ipaddr,stackname) }

Remote IP address. This address may be specified either in dotted decimal notation (for example TCPIPADR=10.211.036.20) or as a symbolic name (length up to 60 bytes), for example TCPIPADR=RVSSRV10. If the TCP/IP stack to be used for this connection is defined with an index other than 1, the reference name for the stack to be used must also be coded. The reference name corresponds with the rvs start parameter TCPSTKID defined for this stack. Example: TCPIPADR=(10.211.36.5,NET20) or TCPIPADR=(RVSSRV10,NET20).

Caution:
Specification of a symbolic name requires the service of a name server. rvs uses the GETHOSTBYNAME macro for access to the name server and this macro requires a runtime library of a C-compiler. This library bust be assigned to the rvs-monitor (STEPLIB DD-Statement) or must be defined as a linklist library. If symbolic names are used, the start procedure of the rvs-monitor should also include a SYSTCPD-DD-statement as used whithin the ip-stack configuration.
No default value.

TCPIPCHK={ YES | NO }

Check of incoming remote IP address. If incoming IP address does not correspond with IP address in parameter TCPIPADR, the transfer of file will be rejected with RC=12 (Access Method Error).

TCPPORT={ 3305 | nn }

Remote portnumber. 'nn' may be a value between 0 and 32767. The portnumber specifies the application which shall be connected to.
For applications using the Odette File Transfer Protocol, portnumber 3305 is registered by IANA, USA.

TCPSESS={ 1 | nn }

Maximum number of TCP/IP sessions to the remote station. 'nn' may be a value between 1 and 99. Default value: TCPSESS=1.

6.2.7. Subset 7 (valid for FTP stations)

Long	Short	definition
(!) ACCESMET	ACME	TP access method
FTPERESP	FERS	end-to-end response
FTPHFILE	FHF	header File (non MVS only)
(!) FTPHNAME	FHN	host names
(!) FTPPASS	FPS	user-id password
FTPPORT	FPT	port number
FTPPREF	FPR	Prefix
FTPREFN	FRN	reference number (non MVS only)
FTPRESP	FRS	response
FTPSESS	FSS	number of parallel transmissions
(!) FTPUID	FUID	user-id
TYPE	-	type of stations

(!) - mandatory parameter

Note:
Additional to these parameters subset 0 must be specified!

Description of rvs Station Table Parameters in detail:

⎡ **ACCESMET** ⎤
⎨ ⎬**={ F[TP]}**
⎣ **ACME** ⎦
Access method must be FTP. Mandatory parameter.

FTPERESP|FERS={NO|YES}

Specification whether an end-to-end-response file shall be sent (will be expected) after data file transmission (FTPERESP=YES) or not (FTPERESP=NO). If parameter FTPRESP is set to NO then then FTPERESP will be set to 'NO', too.
Optional parameter.

FTPHFILE|FHF={NO|YES} **(non MVS stations only)**

Specification whether an additional information file including further information about the transmission partners etc. (header file) shall be sent after data file transmission (FTPHFILE=YES) or not (FTPHFILE=NO). If parameter FTPHFILE is set to NO then parameters FTPRESP and FTPERESP will be set to 'NO', too.
Optional parameter. Default values are:

'YES' if TYPE=MVS is specified
'NO' else

FTPHNAME|FHN=name (name: 1-64 characters)

Remote IP address. This address may be specified either in dotted decimal notation (for example FTPHNAME=10.211.036.20) or as a symbolic name (length up to 24 bytes), for example FTPHNAME=VWRVSB
No default value.

FTPPASS|FPS=text (text: 1-20 characters)

FTP password for the partner station.
No default value.

FTPPORT|FPT=(21 | nnnnn | X'xxxx' } (port: 1-65534)

Remote portnumber. 'nn' may be a value between 0 and 65534 (hexadecimal X'FFFE'). The portnumber specifies the application which shall be connected to.

FTPPREF|FPR=name (name: 1-18 characters)

Specifies the prefix which should be used for construction of dataset names for additional control file.
Optional parameter

The names of such protocol files look as follows:

prefix.FTPxx.sid$_{origin}$sid$_{FTPserver}$.sid$_{destination}$.refnumber

prefix	= value of FTPPREF parameter
FTPxx	= constant
sid_{origin}	= origin station id
$sid_{FTP\ server}$	= sid of next FTP station
$sid_{destination}$	= destination station id
refnumber	= an unique number/stamp to avoid conflicts with duplicate control file names

The prefix has to correspond to MVS DSName conventions(on MVS hosts), PC file name conventions (on PC stations) or UNIX file name conventions (on UNIX like stations).

Examples of control file name (information file):

1.MVS
- FTPPREF=MVSPREF,
- origin station: AAA
- next FTP station: BBB
- destination station: CCC

control file name:
MVSPREF.FTPHD.AAABBB.CCC.F000123

2. PC
- FTPPREF=ftprvs/
- origin station: XXX
- next FTP server station: YYY

- destination station: YYY

control file name:
ftprvs/ftphd.xxxyyy.yyy.f000123

FTPREFN|FRN={NO|YES} **(non MVS stations only)**

Specifies whether the DSN of the file which should be transmitted will be added by a stamp.
Defaults:

'NO' non-MVS stations
'YES' MVS stations

FTPRESP|FRS={NO|YES}

Specifies whether a response file will be expected (shall be sent) after data file transmission (FTPRESP=YES) or not (FTPRESP=NO). If parameter FTPRESP is set to NO then FTPERESP will be set to 'NO', too.

FTPSESS|FSS={ 1 | nn } **(nn: 1-16)**

Specifies the max. number of parallel transmissions to the same FTP partner station.
Allowed are values between 1 and 16.

FTPUID|FUID=user-id **(user-id: 1-64 characters)**

FTP login name of the partner station.
No default value.

TYPE ={ MVS | SINIX | PC }

This parameter specifies the computer type of the partner stations. The FTP component of rvsMVS supports three types of stations:

- MVS
- SINIX
- PC

Optional parameter.

This page will be intentionally empty.

6.2.8. Subset 8 (valid for Indirect Stations = VIA entries)

Long	Short	definition
(!) VIA	-	relais station identification

(!) - mandatory parameter

Description of rvs Station Table Parameters in detail:

VIA=sid **sid = 3 characters**

Relais station identification. Mandatory parameter.
The transmission runs exclusively via the chosen (relais) station.
No default value.

Note :
This entry points to an entry of a directly connected station which works as a relais station. Due to this it is necessary that the chosen relais station must have an own Direct Entry within your station table. This Direct Entry describes all technical parameter to send a data set to this direct connected station.

The logical parameter agreed with the final station must be defined in this 'VIA' Entry. Such logical paramer may be:

ODETID see chapter 6.2.3
SECURITY see chapter 6.2.0 (with ULS feature only)
COMPRESS)

This page will be intentionally empty.

6.2.9. Subset 9 (valid for BSC Line Entries)

	Long	Short	definition
	ACCESMET	ACME	TP access method
	ACTMODE	ACTM	Activation mode
	ACTOPTS	-	options for automatic activation
	AUTOACT	-	automatic line activation (observation)
	ADDEVICE	ADDV	line prepared for autodial
	ADDRESS	ADDR	address of line (only comment)
	SLAVE	-	line profile (master/slave)
(!)	LINE	-	BTAM switched line identification
	LINETYPE	LT	Linetype
	PHONE	-	telephone number (only comment)
	SPEED	-	speed of transmission
	UCBNAME	-	BTAM line address

(!) - mandatory parameter

Description of rvs Station Table Parameters in detail:

⎡ ACCESMET ⎤
⎨ ⎬={ B[TAM]}
⎣ ACME ⎦

TP access method. Must be BTAM. This parameter may be omitted because it is the default.

⎡ ACTMODE ⎤
⎨ ⎬={ N[ORMAL] | A[LL] | S[PECIAL] }
⎣ ACTM ⎦

Activation mode of line control. Optional parameter.
ACTMODE=NORMAL: line control can be activated by every activation command except 'A-ALL'.
ACTMODE=ALL: line control can be activated explicit or by an A-ALL command.
ACTMODE=SPECIAL: line control of this station has to be activated under declaration of the line address.

Operator commands 'Activation of BSC lines' see chapt. 5.5 of the rvsMVS Operation Manual.

ACTOPTS={ (at,rt) | (at1,rt1, at2,rt2, at3,rt3, at4,rt4) }

Options for automatic activation (see AUTOACT) of line control. Optional parameter.

at,at1,at2,..
specifies the activation times when automatic activation will be active. Start time and end time must be written in hours and minutes.
Syntax: at=hh:mm-hh:mm
Default value is '00:00-24:00'.

rt,rt1,rt2,..

specifies the activation retry time. The retry time is a delay for the program to try the activation again, after the last try wasn't successful.
Allowed values: 1 - 255 min.
Default value is '5' minutes.

The parameters must be put in brackets, separated by comma. Maximal input are four combinations of at and rt.
Example:

```
ACTOPTS=(11:15-12:00,5,14:02-17:00,10)
```

Note:
Do not specify time interval beyond midnight, seperate it: Instead ACTOPTS=(23:00-06:00,5) use ACTOPTS=(23:00-24:00,5,00:00-06:00,5)

⎧ ADDEVICE ⎫
⎨ ⎬={ Y[ES] | N[O] }
⎩ ADDV ⎭

Automatic dial devices. Optional parameter.
Significates whether autodial devices for the line are installed or not.

⎧ ADDRESS ⎫
⎨ ⎬='text-string' **text-string = max. 20 chars**
⎩ ADDR ⎭

Address of the station. Optional parameter.
The text-string must be put into quotes. Within the quotes all characters (blanks, commas etc.) are allowed and will not be recognized as delimiters. The maximal length of the string is 20 characters.
ADDRESS is only comment and can be shown on the console by the operator-command 'X-sid'.
No default value.

AUTOACT={ ON | OFF}

Automatically activation of BSC lines. Optional parameter.
The line control will be automatically re-activated after an abnormal end occured. The reactivation starts not immediately, but after a specified delay time (see ACTOPTS).
Autoactivation is suppressed after the operator has stopped the line by a stop command. Autoact function works again if the operator starts the line again.

DIALINTF={ V25 | V25BIS }

Interface for switched BSC lines with AUTODIAL function. This parameter specifies whether the AUTODIAL device (e.g. modem) uses V25 or V25bis Interface. This parameter must correspond with the EP generation of this line.

⎧ LBLKSIZE ⎫
⎨ ⎬={400..2000}
⎩ LSIZE ⎭

Line blocksize for transmission. Optional parameter. Allowed are values from 400 up to 2000 bytes.

LINE=lineaddress **lineaddress= 3 characters**

Name of the line (BTAM subchannel address). Mandatory parameter.
Must be the first parameter of each Line Entry ('LINE' is used for Line Entries like 'SID' for Station Entries).
No default value.

⎧ LINETYPE ⎫
⎨ ⎬ = S
⎩ LT ⎭

Linetype. Optional parameter.
Linetype must be S (switched). Parameter may be omitted because default value is 'S'.

PHONE ='text-string' **text-string = max. 16 chars.**

Telephone number of the final station. Optional parameter.
The text-string must be put into quotes. Within the quotes all characters (blanks, commas etc.) are allowed and will not be recognized as delimiters. The maximal length of the string is 16 characters. The telephone number is only comment and can be shown on the console by the operator command 'X-sid'.
No default value.

SLAVE={ YES | NO }

Definition of the behaviour of the line. SLAVE substitutes the old PPROF parameter.
If you act like a master station (e.g. car manufacturer) you must specify SLAVE=NO, else you are a slave station (e.g. supplier) and must specify SLAVE=YES.
If SLAVE=YES (=secondary) is coded, rvs sets up a BTAM WRITE macro and is able to send out the station identification.
SLAVE=NO (=master=primary): rvs sets up a BTAM READ macro and is able to receive the identification of a remote station.

SPEED={ LOW | HIGH }

Transmission speed. Mandatory for low speed lines (1200 bps).
SPEED=LOW : If lines with 1200 bps are used.
SPEED=HIGH : If lines with more than 1200 bps are used.

UCBNAME={nnn | nnnn} **nnn = BTAM subchannel address (3 digit UCB)**
nnnn = BTAM subchannel address (4 digit UCB)

This is a second way to define the BTAM subchannel address for switched lines. Here you are able to define three or four digit subchannel addresses without rvs-restrictions. The value defined in parameter LINE will be used as alias name for this line.
Default value is the value defined in parameter LINE.

This page will be intentionally empty.

6.2.10. Subset 10 (valid for local Virtuel Stations = TYP=VIRT entries) – with ULS feature only

Long	Short	Definition
(!) TYPE=VIRT	-	Local virtual station identification

(!) - mandatory parameter

Description of rvs Station Table Parameters in detail:

TYPE=VIRT

Local virtual station identification. Mandatory parameter.
No default value.

Follow parameter are mandatory for local virtual station:

ODETID see chapter 6.2.3
ACME={T|X|L} see chapter { 6.2.4 | 6.2.5 | 6.2.6 }
RECVPW see chapter 6.2.3
SENDPW)
SECURITY see chapter 6.2.0
COMPRESS)

This page will be intentionally empty.

6.2.11. Examples of a Stations Table

1. Example (Different Entry Types) :

```
    |<----------------- 72 characters ---------------------------------->|<-8->|
    |****************************** TOP OF DATA ********************************|
    |*                                                                   |     |
  1.|SID=BST, SCNL=(001,0E2), FTP=4914/0,                                |     |
    |         PHONE='34567 KUNZE',                                       |     |
    |         ADDR='BSC STATION, WOB',                                   |     |
  2.|SID=SST, ACME=VTAM,                                                 |     |
    |         LU=T32221,                                                 |     |
    |         SPROF=OS1,                                                 |     |
    |         ADDR='SNA STATION'                                         |     |
  3.|SID=XST, ACME=X25,                                                  |     |
    |         ODETID='ODCDE123XXX-A 01'                                  |     |
    |         X25NUM=45536140856                                         |     |
    |         SPW=SENDPW                                                 |     |
    |         RPW=RECPW                                                  |     |
    |         ADDR='X25 STATION'                                         |     |
  4.|SID=XIS, ACME=X25,                                                  |     |
    |         ODETID='ODCDE123XXX-A 02'                                  |     |
    |         X25NUM.1=(0536114222,ISDN)                                 |     |
    |         X25PSIZE.1=512                                             |     |
    |         X25WSIZE.1=7                                               |     |
    |         X25NUM.2=(4553611444,X25)                                  |     |
    |         X25PSIZE.2=128                                             |     |
    |         X25WSIZE.2=2                                               |     |
    |         SPW=SENDPW                                                 |     |
    |         RPW=RECPW                                                  |     |
    |         ADDR='X25 STATION'                                         |     |
  5.|SID=LU6, ACME=L,                                                    |     |
    |         LSIZE=1200,                                                |     |
    |         SYNCLVL=CONFIRM,CONVTYP=MAPPED,SESSNUM=(5,3,5),            |     |
    |         LU=XLUNAME1, TPN=RVSOFTP,                                  |     |
    |         LU62MODE=(MODNAME1,MODNAME2,MODNAME3),                     |     |
    |         ODETID='OXY34000001GEDAS   LU6'                            |     |
    |         SENDPW=SEND1,RECVPW=RECV1,CREDIT=8,                        |     |
    |         ADDR='LU6.2 TEST'                                          |     |
  6.|SID=PC1, ADDR='PC Nr. 1'                                            |     |
    |         TYPE=WIN-3270                                              |     |
    |         RECVPC=pswpc1                                              |     |
  7.|SID=PC2, ADDR='PC Nr. 2'                                            |     |
    |         TYPE=WIN-3270                                              |     |
    |         USERID=userpc2                                             |     |
  8.|SID=TCP, ADDR=TCP/IP STATION,LSIZE=32760,ACME=TCP,                  |     |
    |         TCPIPADR=10.210.208.130,TCPPORT=3305,TCPSESS=4,            |     |
    |         ODETID=' ODCDE123XXX-A 03',CREDIT=50,                      |     |
    |         SENDPW=AAA,RECVPW=AAA                                      |     |
  9.|SID=FTP, ACME=F,                                                    |     |
    |         FTPRESP=YES,FTPERESP=YES,                                  |     |
    |         FTPSESS=5,FTPUID='FIX0AAB',FTPPASS='XXXXXXX'               |     |
    |         FTPPREF='FIX0AAB',FTPHNAME='144.162.14.400'                |     |
    |         ODETID=' ODCDE123XXX-A 04'                                 |     |
    |         ADDR='FTP-MVS STATION'                                     |     |
 10.|SID=FPC, ACME=F,TYPE=PC,                                            |     |
    |         FTPUID=anonymous,FTPPASS=anonymous,                        |     |
    |         FTPPREF='XYZ/',FTPHNAME=136.11.127.23,                     |     |
    |         ODETID=' ODCDE123XXX-A 05'                                 |     |
    |         ADDR='FTP PC STATION'                                      |     |
```

```
11.|SID=IST, VIA=BST,                                                    |      |
   |         ADDR='INDIRECT STATION',ODETID=' ODCDE123XXX-A 05'          |      |
12.|LINE=0E2, ADDR='LINE 0E2',SLAVE=YES                                  |      |
13.|LINE=001, ADDR='LINE 001',SLAVE=YES                                  |      |
   |          UCBNAME=FE3                                                |      |
14.|SID=VC2, ADDR='LOCAL VIRTUAL STATION VC2'                    |      |
   |         ODETID='O0013000001VW   2VHOST',TYPE=VIRT                   |      |
   |         ACME=T,RECVPW=AAA,SENDPW=AAA,                               |      |
   |         SECURITY=EXT,COMPRESS=EXT                                   |      |
15.|SID=VL1, ADDR='REMOTE VIRTUAL STATION ON LNX (USER1)'            |      |
   |         ODETID='O0013003210GEDASLUM4UB1'VIA=LNX,                    |      |
   |         SECURITY=EXT,COMPRESS=EXT                                   |      |
   |*************************** BOTTOM OF DATA ************************|*****|
```

1. Direct Station Entry (BSC)
   Station BST is directly connected. In addition to the explicitly coded parameters following default values are valid in this entry :

   ACCESMET=BTAM, ACTMODE=NORMAL, AUTODIAL=NO, LBLKSIZE=2000, LINETYPE=S, OPTIONS=NO, PWMOD=NO, SPEED=HIGH

2. Direct Station Entry (SNA)
   Station SST is directly connected. In addition to the explicitly coded parameters following default values are valid :

   ACTMODE=NORMAL, AUTOACT=NO, LBLKSIZE=2000, OPTIONS=NO, PWMOD=NO, SPEED=HIGH
   No default value for DIALOPTS because AUTOACT is not requested.

3. Direct Station Entry (X25)
   Station XST is directly connected. In addition to the explicitly coded parameters following default values are valid :

   ACTMODE=NORMAL, CREDIT=999, DIRECTN=B, LSIZE=2000, OPTIONS=NO, PWMOD=YES, SPCLOGIC=NO

4. Direct Station Entry (X.25 if you support more X.25 multi channel links)
   Station XIS is directly connected and you support more than one X.25 multi channel links. When dialing out rvsMVS looks for a not busy line among the specified X.25 group 'ISDN' (See also chapter 6.1.1 of this manual.) In addition to the explicitly coded parameters following default values are valid:

   ACTMODE=NORMAL, CREDIT=999, DIRECTN=B, LSIZE=2000, OPTIONS=NO, PWMOD=YES, SPCLOGIC=NO

5. Direct Station Entry (LU6.2)
   Station LU6 is directly connected. In addition to the explicitly coded parameters following default values are valid :

   AUTODIAL=YES, LBLKSIZE=2000, SPCLOGIC=NO, ACTMODE=NORMAL

6. Direct Station Entry (rvsWIN)
   Station PC1 is directly connected to rvsMVS. rvs uses a fixed password while esablishing the session. No LUNAME is needed, any LUNAME is accepted.

7. Direct Station Entry (rvsWIN, using RACF)
   Station PC2 is directly connected to rvsMVS. rvs checks the USERID and password of the user who wants to get access by rvsWIN (see exit DFUX002, Appendix A). No LUNAME is needed, any LUNAME is accepted.

8. Direct Station Entry (TCP/IP)
   Station TCP is directly connected. In addition to the explicitly coded parameters the following default values are valid:

   ```
   ISTATUS=ACTIVE,  AUTODIAL=YES,  DIALOPTS=(00:00-24:00,60),  DIRECTN=BOTH,
   PWMOD=YES, SPCLOGIC=NO
   ```

9. Direct Station Entry (FTP)
   Station FTP (MVS station) is directly connected. In addition to the explicitly coded parameters the following default values are valid:

   ```
   TYPE=MVS,FTPHFILE=YES,FTPREFN=YES,FTPPORT=21,
   ISTATUS=ACTIVE, AUTODIAL=YES, DIALOPTS=(00:00-24:00,60)
   ```

10. Direct Station Entry (FTP)
    Station FPC (PC station) is directly connected. In addition to the explicitely coded parameters the following default values are valid:

    ```
    FTPPORT=21,FTPSESS=1,
    FTPRESP=NO,FTPERESP=NO,FTPHFILE=NO,FTPREFN=NO,
    ISTATUS=ACTIVE, AUTODIAL=YES, DIALOPTS=(00:00-24:00,60)
    ```

11. Indirect Station Entry.
    Station IST is indirectly connected. Relais station is BST. Files to IST will be transmitted via BST. The chosen relais station must also be specified (see entry 1,BST).

12. Line Entry.
    Entry for line 0E2. In addition to the explicitly coded parameters following default values are valid:

    ```
    ACCESSMET=BTAM,  ACTMODE=NORMAL,  ADDEVICE=NO,  LBLKSIZE=2000,  LINETYPE=S,
    OPTIONS=NO, PWMOD=NO, SPEED=HIGH, UCBNAME=0E2
    ```

13. Line Entry.
    Entry for line 001. The BTAM subchannel address will be FE3. In addition to the explicitly coded parameters following default values are valid:

    ```
    ACCESSMET=BTAM,  ACTMODE=NORMAL,  ADDEVICE=NO,  LBLKSIZE=2000,  LINETYPE=S,
    OPTIONS=NO, PWMOD=NO, SPEED=HIGH
    ```

14. Virtual Station Entry (local)
    Virtual Station (local) Station VC2 is local virtual station. More info see chapter 9.5.

15. Virtual Station Entry (remote)

Virtual Station (remote) Station VL1 is indirectly connected. Relais station is LNX. Files to VL1 will be transmitted via LNX. The chosen relais station must also be specified. This station enty is equal to VIA entry. More ifo see chapter 9.5.

2. Example (Automatic Dial) :

```
   |<---------------- 72 characters ---------------------------------->|<-8->|
   |****************************** TOP OF DATA ***************************|
   |*                                                                   |     |
 1.|SID=ADS, SCNL=(099,0E3), FTP=4914/0, AD=YES, DNUM=5361829C3,        |     |
   |     ADDR='AUTODIAL STATION', DOPTS=(09:25-12:00,6,14:30-17:00,12), |     |
   |       DOPT2=22:15                                                  |     |
 2.|LINE=099, ADDV=YES, ADDR='AUTODIAL LINE 099'                        |     |
 3.|LINE=0E3, ADDR='LINE 0E3'                                           |     |
 4.|SID=VAD, ACME=V, LU=T4711, SPROF=OS1, AUTOACT=YES                   |     |
   |***************************** BOTTOM OF DATA *************************|
```

Explanation :

1. BSC-Station ADS is directly connected. Autodial is possible because the necessary parameters 'AD' and 'DNUM' are specified and one of the chosen lines (subchannel 099) is prepared for autodial (see entry 2.).
   The autodial function is activ between 9:25 am and 12 am (first interval) with a retry time of 6 minutes. The second interval starts at 2:30 pm and stops at 5 pm with a retry time of 12 minutes.
   Station ADS will be called automatically at 10:15 pm, even if there is no send request for ADS (useful if you are expecting data from ADS which are queued for you until 10:15 pm.)

2. Entry for line 099.
   The necessary devices for autodial are installed (ADDV=YES).

3. Entry for line 0E3. Autodial is not possible.

4. SNA-Station VAD is directly connected. Autodial is possible because 'AUTOACT=YES' is specified. DIALNUM is not allowed (not necessary), because the number has to be specified within your VTAM generation.
   The autodial function is activ between 0:00 am and 12 pm with a retry time of 5 minutes (default values).

6.3. Special Transmission Protocols (rvs Program Profile Table)

(only used for the BSC component)

The internal Program Profile Table contains a number of standard entries corresponding to the supported transmission protocols (chosen by stations parameter 'FTP'). In addition to these fixed profiles, some special profiles can be added using the dataset RVS.TABLES(PROGPROF). Special program profiles are necessary for example for BTAM leased lines.

Creating special program profiles is described in 'rvsMVS Installation Manual', Appendix H.

This page will be intentionally empty.

6.4. Definition of rvs Sessions Table

(only used for SNA component)

This table (member "SESSIONS" of the rvs Tables file) must be installed, if the SNA component of rvs shall be used for transmissions to at least one remote station. The use of a session profile is quite similar to the use of a program profile for BSC lines. A session profile defines the number and type(s) of sessions to a remote station. Additionally, different transmission protocols may be defined for different sessions.

A session profile is assigned to each entry of the stations table which is defined to use VTAM/SDLC line(s). This assignment is done during start of the rvs monitor.

Each session profile consists of a group of one ore more statements (lines within this table), which are summarized to the session profile name in columns 1 - 3 of the first line. Each line within a session profile defines one session. In general, several (parallel) sessions are defined between two stations. One session profile may be used for different remote stations.

The first line of a session profile must contain a nonblank character string in columns 1 - 3, the end of a session profile will be indicated if

- the end of the table is reached or
- the next line contains in columns 1 - 3 a character string different from the previous session profile name.

Lines with a "*" in column 1 are treated as comment. The following fields are included within one line (definition of one session) of a session profile:

Column	Description
1 - 3	Name of the session profile (alphanumeric, free selectable). This name is used only for reference to the rvs Stations Table, see parameter "SESPROF". The names of session profiles must be unique within this table. Session profile names starting with character "$" are reserved for rvs internal use.
4	Specification for activation of this session. The following values are valid within this field: blank the session will be activated as defined within the stations table, parameter "ACTMODE". C'+' the session will be activated (stopped) only if the command for activation (stopping) contains the "NIGHT" subparameter, for example "A sid,NIGHT". This definition may be useful if the SDLC connection between two stations consists of more than one "virtual route" used for different applications (batch transmissions / dialog traffic). If one (or more) virtual routes are not used all the time of a day, the session may be started with the above mentioned command "A sid,NIGHT" in order to use other virtual routes in addition to the normal (batch) virtual route(s) (controlled by a separate logmode, see description of columns 53 - 60).
5 - 12	Module name of the VTAM I/O handler routine. "DF099A00 must always be specified.
14 - 21	Module name of the session protocol handler routine. Module name for an operator session: DF091C00 Module name for a send session: DF092C00 Module name for a receive session: DF093C00
23 - 29	Specification of the session type (in character format). One ore more of the following values may be coded in any sequence:

Column	Description
	C'O' Session for operator-operator communication. This type of session is used for sending messages ("M sid" command), display of send requests queued in the remote station for transmission to the local (own) station ("Q sid" command) and mofification of the status of send request(s) queued in the remote station for transmission to the local (own) station ("R sid" command). C'S' Send session (used only to send datasets). C'R' Receive session (used only to receive datasets). C'7' Transmission protocol for 3270 interface C'C' Change Direction Indicator (within request header of a VTAM RU) will be sent only in case of a change direction (Normally rvs does not care about the Change Direction Indicator and will send it within each VTAM RU). This specification may be useful in conjunction with sessions to PU type 2 computers, where the rvs transmission protocol is half duplex flip flop. C'D' Change Direction Indicator (within request header of a VTAM RU) will never be sent. (Normally rvs does not care about the Change Direction Indicator and will send it within each VTAM RU). This specification may be useful in conjunction with sessions to PU type 2 computers, where the rvs transmission protocol is half duplex flip flop (specification for example necessary for NCR computers). C'M' Each session to the remote station uses a different Logical Unit name (no parallel sessions to the remote application). This specification is used for communication between rvs and PU Type 2 clusters. Such a communication may be established if the remote computer supports one of transmission protocols "VW-FTP V1.0" or "VW-FTP V2.0". <u>Remarks:</u> The values O, S, R exclude each other. The value "M" defines the use of "VW-FTP V1.0", the values "M" and "7" together define the use of "VW-FTP V2.0
31 - 38	Session options (may be used for modification of functions performed by this session). The use of this field is only for test and development purposes, the value C'00000000' must always be specified.
40 - 47	File options (may be used for modification of (file dependent) functions performed during transmission of a file). The use of this field is only for test and development purposes, the value C'00000000' must always be specified.
49	Session timer. This timer is used to check TIMEOUT situations. Transmission of data records of a file (sending or receiving) is preceeded and followed by transmission of some rvs protocol records. The transmission of all of these protocol records (and the time used for establishing a session after activation request) is controlled by the session timer. If sending of a protocol record is not completed within the time interval, rvs treats this as a TIMEOUT situation and the transmission will be cancelled. The session timer (time interval) is also used for re-writing the record counters during transmissions to the controldataset (checkpoints for a later restart of the transmission). One of the following values may be specified: C'0' - 15 seconds C'1' - 30 seconds C'2' - 1 minute

Column	Description
	C'3' - 2 minutes C'4' - 4 minutes C'5' - 8 minutes C'6' - 16 minutes C'7' - 32 minutes C'8' - 64 minutes C'9' - 128 minutes blank - 2 minutes (Default value)
50	Session delay (valid only for send sessions) This value specifies a time interval which the session uses as a delay time before sending of each line buffer. This value may be specified in order to reduce the speed of transmissions (line usage for batch transmissions). One of the following values may be specified: C'0' - no delay C'1' - 0.01 seconds C'2' - 0.02 seconds C'3' - 0.04 seconds C'4' - 0.08 seconds C'5' - 0.16 seconds C'6' - 0.32 seconds . . . C'F' - 163.84 seconds blank - no delay (Default value) <u>Remark:</u> If a general send delay time is specified (see command "SDELAY" in the Operation Manual), the general value is added to the value specified in this session profile.
51	Pacing value (valid only for send sessions). After sending of every n-th line buffer a "definite response" is requested from the receiving station (normally, sending of line buffers containing data records is performed without any "definite response", but only with "exceptional response"). The following values may be specified: blank no use of "definit responses" for transmitted line buffers containing data records (Default). C'0' same as blank C'1' - C'F' request for "definit response" after transmission of every 1. - 15. line buffer. <u>Remarks:</u> This kind of "flow control" is done on application level. Normally it is better to use flow control functions (pacing) provided by the access method (VTAM), see definition of LOGMODE Table and APPL Statement, chapter 3.
53 - 60	Name of a Logmode. This specified Logmode will be used if the session is established as a result of a rvs activation command ("A" command, see Operations Manual). If this field is left blank, session parameters within the rvs programs will be used ("hardcoded Bind"), except PACING and COS values. These values (if specified) will be taken from the DLOGMODE Entry which is specified within the APPL Statement. <u>Remark:</u> Different Logmode names may be specified in order to use different "Virtual Routes"

Column	Description
	or "Transmission Groups" for different parallel sessions.
61 - 80	Field for comments.

The following is an example of a Sessions Table containing five session profiles (included in the rvs Tables Dataset, member "SESSIONS", on the installation tape):

```
* COLUMN SCALE
*!!!V!!!!1!!!!V!!!!2!!!!V!!!!3!!!!V!!!!4!!!!V!!!!5!!!!V!!!!6!!!!V!!!!7!!!!V!
*
*PROFILE WITH 1 OPERATOR-, 2 SEND- AND 2 RECEIVE-SESSIONS (STANDARD PROFILE)
*-------------------------------------------------------------------------
SP1 DF099A00 DF091C00 O       00000000 00000000             OPERATOR SESSION
    DF099A00 DF092C00 S       00000000 00000000             1. SEND SESSION
    DF099A00 DF092C00 S       00000000 00000000             2. SEND SESSION
    DF099A00 DF093C00 R       00000000 00000000             1. RECEIVE SESS.
    DF099A00 DF093C00 R       00000000 00000000             2. RECEIVE SESS.
*-------------------------------------------------------------------------
* AS ABOVE, BUT SECOND SEND AND RECEIVE SESSION TO BE ACTIVATED ONLY IF
* "NIGHT" SUBPARAMETER IS SPECIFIED DURING ACTIVATION COMMAND. FOR THESE
* SESSIONS LOGMODE "rvs3" IS USED.
*-------------------------------------------------------------------------
SP2 DF099A00 DF091C00 O       00000000 00000000             OPERATOR SESSION
    DF099A00 DF092C00 S       00000000 00000000             1. SEND SESSION
   +DF099A00 DF092C00 S       00000000 00000000     RVS3    2. SEND SESSION
    DF099A00 DF093C00 R       00000000 00000000             1. RECEIVE SESS.
   +DF099A00 DF093C00 R       00000000 00000000     RVS3    2. RECEIVE SESS.
*-------------------------------------------------------------------------
* 3 PROFILES FOR COMMUNICATION WITH PU TYPE 2 (FOR EXAMPLE NIXDORF 8870)
* (EACH PROFILE DEFINES ONLY ONE SESSION)
*-------------------------------------------------------------------------
SPO DF099A00 DF091C00 OM      00000000 00000000             OPERATOR SESSION
SPS DF099A00 DF092C00 SM      00000000 00000000             SEND SESSION
SPR DF099A00 DF093C00 RM      00000000 00000000             RECEIVE SESSION
*-------------------------------------------------------------------------
```

6.5. JCL Member for Copy Jobs

The following five members of the rvs Table Dataset are used if

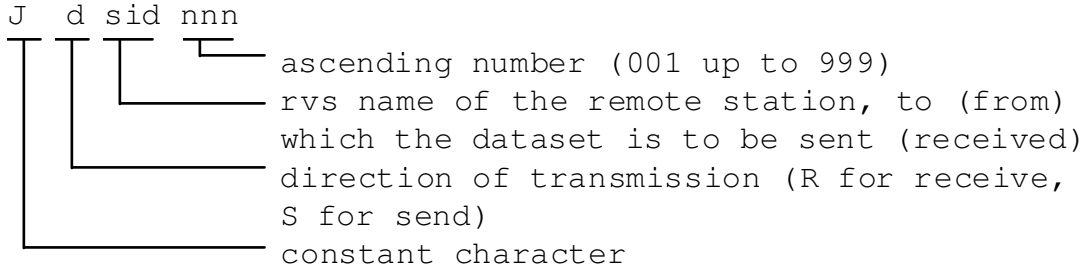
- a dataset has been queued for sending and the dataset resides on a tape volume. In this case, rvs starts a job in order to copy the file from tape to disk (data transmission is done always from/to disk).
- a dataset has been received and the specified (or default) device type for this file is "tape". In this case, rvs starts a job in order to copy the received dataset from disk to tape.
- a dataset has been received and a specification has been made to store the received data in a sysout queue. In this case, rvs starts a job in order to copy the received dataset from disk to the specified sysout queue.

Member JOBCARD of the rvs Tables Dataset

This member must contain a valid jobcard (consisting of one or more lines). This jobcard is used (exception: see description of member "JOBCARDS") for the above mentioned copyjobs.

To avoid double jobnames, one part of the jobname may be replaced by (up to three question marks (character "?"). The rvs Monitor replaces this question marks by an (ascending) number.
Example: The jobname "RVS??CPY" will be replaced by "RVS05CPY" if this is the fifth copyjob started by rvs since last monitor start.

If "VWJOBC=YES" is specified (see section "rvs Start Parameter" within this chapter), rvs generates a jobname in the following manner:


J d sid nnn
ascending number (001 up to 999)
rvs name of the remote station, to (from)
which the dataset is to be sent (received)
direction of transmission (R for receive,
S for send)
constant character

Member JOBCARDS of the rvs Tables Dataset

The use of this member is optional. If it does not exist or if it is not allocated to the rvs Monitor with DD statement "JOBCARDS", member "JOBCARD" will be used instead of it.

The only reason for the use of this alternate jobcard is the following:
If received data shall be copied into a sysout queue, it may be very useful to assign a special jobname with these data.
If the first line of this member contains the character string **"//???????? JOB"** in columns 1 - 14, rvs replaces the question marks by the jobname (userid) of the job (userid), which has specified to copy the received data into a sysout queue.
This specification might have been done either during creation of a resident receive entry for this dataset or - in the remote station - during creation of a send request for this dataset. In both cases, the SYSOUT parameter has been specified. For more details about "resident receive entries" or "send request" see rvsMVS User Manual.

If the length of this jobname (userid) is less than 8 characters, the character "§" will be added to this name.

Member RTAPEJC of the rvs Tables Dataset

This member contains the following JCL statements which are used if a dataset shall be copied from disk to tape after receiption.

```
//RECTAPE  EXEC PGM=DF024A00,PARM=####
//IN       DD  UNIT=SYSDA,DISP=(OLD,DELETE,KEEP),
//             VOL=SER=######,
//             DSN=################
//OUT      DD  UNIT=(TAPE,,DEFER),
//             DISP=(,CATLG),              *** WILL BE MODIFIED ***
//             DSN=###.######.######
//STEPLIB  DD  DSN=RVS.LOAD,DISP=SHR
```

In this case, rvs will generate and submit a job consisting of the (modified) content of members "JOBCARD" and "RTAPEJC".

rvs will modify all fields containing # characters. The lines containing these characters should not be modified. The DISP parameter within the OUT DD statement might be changed to KEEP by rvs if required. Other parameters (for example UNIT) should be adapted to the corresponding installation.

Member STAPEJC of the rvs Tables Dataset

This member contains the following JCL statements which are used if a dataset on tape has been queued for transmission and must be copied from tape to disk before the transmission can start.

```
//SENDTAPE EXEC PGM=DF024A00,PARM=####
//IN       DD  UNIT=(TAPE,,DEFER),DISP=SHR,
//             VOL=SER=######,
//             DSN=################
//OUT      DD  UNIT=SYSDA,SPACE=(CYL,(060,070),RLSE),
//             DISP=(,KEEP,DELETE),
//             DSN=################
//STEPLIB  DD  DSN=RVS.LOAD,DISP=SHR
```

In this case, rvs will generate and submit a job consisting of the (modified) content of members "JOBCARD" and "STAPEJC".

rvs will modify all fields containing # characters. The lines containing these characters should not be modified. Other parameters (for example UNIT or SPACE) should be adapted to the corresponding installation.

Member SYSOUTJC of the rvs Tables Dataset

This member contains the following JCL statements which are used if a dataset shall be copied to a sysout queue after receiption.

```
//SYSOUT   EXEC PGM=IEBGENER
//SYSPRINT DD  SYSOUT=*
//SYSIN    DD  DUMMY
```

```
//SYSUT1   DD  DISP=(OLD,DELETE,KEEP),
// DSN=#################
//SYSUT2   DD  SYSOUT=#
```

In this case, rvs will generate and submit a job consisting of the (modified) content of members "JOBCARD" (or "JOBCARDS", if available) and member "SYSOUTJC".

rvs will modify all fields containing # characters. The lines containing these characters should not be modified. Other parameters (for example UNIT) should be adapted to the corresponding installation.

Member FTPRVSJC of the rvs Tables Dataset

This member contains the following JCL statements which are used for FTP file transmission (rvsFTP component only).

```
//*MAIN SYSTEM=XY11
//RVSFTP1  EXEC PGM=FTP
//STEPLIB  DD  DSN=SYS1.LINKLIB,DISP=SHR
//SYSUDUMP DD  SYSOUT=*
//SYSDUMP  DD  SYSOUT=*
//INPUT    DD  DISP=SHR,
//             DSN=###.######.######
//OUTPUT   DD  DISP=OLD,
//             DSN=###.######.######
//SYSPRINT DD  SYSOUT=*
//RVSFTP2  EXEC PGM=IEBPTPCH
//SYSPRINT DD  SYSOUT=*
//SYSUT1   DD  DSN=*.RVSFTP1.OUTPUT,DISP=OLD
//SYSUT2   DD  SYSOUT=*
  PRINT    MAXFLDS=1
  RECORD   FIELD=(80)
//RVSFTP3  EXEC PGM=IEFBR14
//NEW      DD  DISP=(NEW,CATLG,CATLG),
//             DCB=*.RVSFTP1.INPUT,SPACE=(TRK,(1)),
//             DSN=###.######.######
```

In this case, rvs will generate and submit a job consisting of the (modified) content of members "JOBCARDF" (if available) and member "FTPRVSJC".

rvs will modify all fields containing # characters. The lines containing these characters should not be modified or removed. Other parameters (for example UNIT) should be adapted to the corresponding installation.

This page will be intentionally empty.

6.6. Control of rvs Messages

6.6.1. Control of Messages for Console and remote Operating

Starting with Release 1.4, Level 01, four new functions have been implemented to allow more control for the display of rvs messages on console and for the remote operating session. These functions are:

1. Suppression of messages on console
2. Display of messages on console
3. Suppression of messages for remote operating
4. Display of messages for remote operating

Both display functions have highest priority in view of all other control algorithms for message processing. In particular the display of special 'P'-messages (which are normally only written to sysout protocols, see 6.6.2) is now possible.
Another example for the display function is the general suppression of some messages, which however will be displayed only for a special remote station.

The messages to be suppressed/displayed must be defined within a member of the rvs tables dataset. This member is called CNTLMSG member. The above functions may be used only if this member is allocated to the rvs monitor with DD-name CNTLMSG.
If this allocation does not exist, rvs can not activate the above functions.

The control of additional sysout protocols (see 6.2.2) is not affected by these functions, this means that these functions do only control display/suppression of messages on console and for the remote operating session.

The content of the CNTLMSG member may be changed at any time. It may be activated immediately by entering the command 'MSG,REFRESH' or 'MSG,R'.

The member itself is devided into groups (subsets) of message definitions, each subset is assigned with a name.
The reason for this division into different subsets is a high flexibility when selecting different subsets of messages to be suppressed/displayed on console/rem.operating.

The selection of a subset of messages for a certain function may be controlled by the following commands:

'MSG,CNSLSUP=name'	or	'MSG,CS=name'	suppression of console messages
'MSG,CNSLDSPL=name'	or	'MSG,CD=name'	display of console messages
'MSG,RMOPSUP=name'	or	'MSG,RS=name'	suppression of rem.op. messages
'MSG,RMOPDSPL=name'	or	'MSG,RD=name'	display of rem.op. messages

The assignments of message subsets to the different functions (and the fact which of the function is active or not) may be displayed with the command 'MSG,DISPLAY' or 'MSG,D'.

After start of the rvs monitor (and after entering of the REFRESH command) the functions will be assigned with default subsets of messages (if defaults are defined, see below).

If there is no default assignment for a function, this function remains inactive until the command 'MSG,fkt=name' is entered. 'fkt' denotes one of the four functions, see above.

Each function may be set inactive by entering the command 'MSG,fkt=NONE'.

Additionally there is a command to reset all functions to their default assignments: 'MSG,SETDEF' or 'MSG,S'. This command also displays the new assignments for all functions.

Syntax of the CNTLMSG member

- Lines starting with a '*' in column 1 are treated as a comment.
- The length of a line (80 characters) may completely be used for definitions etc.
- The first non-comment line must define the group (subset) name of the message subset. Syntax: 'SUBSET=name' where 'name' is a string of up to 8 alphanumeric characters. No differences are made between small/capital letters: all input from the CNTLMSG member will be translated to capital letters before interpretation.
- After the definition of the subset name one (or more) default assignments for the different functions may be done. Syntax:

  'DEFAULT=CNSLSUP' default assignment for suppression of console messages
  'DEFAULT=CNSLDSPL' default assignment for display of console messages
  'DEFAULT=RMOPSUP' default assignment for suppression of rem.op. messages
  'DEFAULT=RMOPDSPL' default assignment for display of rem.op. messages
  Subset definition and default assignment(s) must be separated by at least one blank.
- The default assignments become active after start of the rvs monitor as well as after entering the command 'MSG,REFRESH'. If there are more than default assignments for the same function, only the first assignment will be accepted, further assignments are ignored.
- Other definitions within this line will be ignored.
- After definition of the subset name (and default assignments) the messages of this subset may be defined in the following lines. Definition of an 'empty' subset is syntyctically accepted, but makes no sense.
- The end of a message subset will be recognized by 'end of file' or by the definition of a new subset.
- The messages itself must be defined generic, this means that always the first characters of the message have to be specified. Especially each message has to start with the characters 'DF'. Modification of the message prefix (rvs start parameter 'MSGID=xx' does not affect processing of the suppression/display functions).
- All messages which match the same specified prefix will be processed (suppressed/displayed).
- The definition of a message must comprise at least 3 characters (e.g. 'DF5'), the length of the definition is only restricted by the length of a line (80 characters).
- One line may contain several message definitions.
- Message definitions within a line must be separated by one (or more) blanks. If a message definition itself contains blanks, it must be enclosed by the characters '>' and '<'.

Example:

```
*-------------------------------------------------------------*
*                          CNTLMSG MEMBER                     *
*-------------------------------------------------------------*
*
*  START MESSAGES OF SNA COMPONENT
*
SUBSET=COMPSNA1
DF3601 DF3713
*
*  START AND TERMINATION MESSAGE OF X25/LU62 COMPONENT
*
SUBSET=COMPX251
DF9409 DF9415
*
*  COMBINATION COMPSNA1 + COMPX251
*
SUBSET=STANDARD
DF3601 DF3713 DF9409 DF9415
*
*  OUTPUT OF DD-COMMAND
*
SUBSET=DISPLAY1 DEFAULT=CNSLDSPL DEFAULT=RMOPDSPL
DF5211
*
*  JOBSTART MESSAGE FOR STATION X01
*
SUBSET=JOBSTRT1
>DF5801I *R-X01*<
```

Remark:
The example above in included in the tables dataset of the distribution tape.

6.6.2. Additional SYSOUT protocols

Most, but not all of the rvs messages are displayed on the operators console. For example, all messages containing the character 'P' in column 7 of the message identifier, are not displayed on console.
In some cases (for example problem determination) it is useful to have more information about the activity of the rvs monitor.
Because of such reasons it is possible, to define one (or more) SYSOUT protocols for the rvs monitor. The content of these protocols may be selected by message identifiers.

To define an (additional) SYSOUT protocol, the following things must be done:

1. Two additional DD statements must be inserted into the rvs start procedure for one SYSOUT protocol. The first one is used to allocate a member of the rvs tables dataset, which contains the information about the messages to be printed on the protocol (see below). The second one is used to allocate the SYSOUT protocol (output file) itself. These two DD statements build a pair with the DD names MSGIDnn and SYSWTOnn, where nn is a number between 01 and 09 or blank. The value of "nn" must be the same within one pair of DD names.
   Remark: If you want to look to SYSWTOnn protocols during the run of the rvs monitor, please use a pre-allocated (not empty) file within the DD statement and allocate it with DISP=SHR. As soon as the records have been written onto disk it is possible to look at them (e.g. with ISPF BROWSE).

2. The member of the rvs tables dataset, which is allocated with DD name MSGIDnn to the rvs monitor, must be created.
   The layout of this member is as follows:
   The first line, columns 1 - 6 (left justified) may contain one of the values

   ONLY Only the messages with the following message identifiers will be printed to the protocol

   EXCEPT All messages - except the messages with the following identifiers - will be printed to the protocol.

   If none of the above values is specified, "EXCEPT" will be assumed.

   In the first line (between columns 8 and 72) and in the following lines of the member (between columns 1 and 72) rvs message identifiers (first 6 characters) may be coded, separated by at least one blank.

The following example of a message selection member is contained in member "MSGID" of the rvs tables dataset on the installation tape:

EXCEPT

6.6.3. Definition of "non-deletable" messages

Every rvs message may be defined as "non-deletable", this means the message is written to console by using the parameter "DESC=2" during execution of the WTO macro.
Those messages will be kept on the MVS console as long as they are deleted manually. To define some rvs messages as "non-deletable", the following action is necessary:
A new member within the rvs Tables Dataset must be created, membername: MSGPERM.
The following DD Statement must be inserted in the rvs start procedure:

```
//MSGPERM DD  DSN=RVS.TABLES(MSGPERM),DISP=SHR
```

The member MSGPERM contains the information whether a message shall be non deletable or not. The layout of this member is the same as for member "MSGID" described at the beginning of this section.

6.7. Automatically executed rvs commands

The member "START" of the rvs Tables Dataset may be used to specify rvs commands, which are to be executed immediately after start of the rvs Monitor. So it is possible - for example - to activate one (ore more) lines after start of rvs automatically.

The member "START" may be empty or may be totally left out of the rvs start procedure. If one (ore more) commands shall be executed automatically after start of rvs, the following rules must be noticed:

- Every command must be specified on a separate line whithin the member.
- Every command must start on column 1.
    - Blank lines or comment lines are not allowed.

The rvs Tables Dataset on the installation tape contains an empty START member.

This page will be intentionally empty.

6.8. RMOP PF Keys

The member "PFKEYS" of the rvs Tables Dataset may be used to specify default settings of RMOP PF keys.

Format:

```
PFxxbv'command'                    xx - 02 - 11, 13 - 24
                                        PF key number
                                   b  - blank
                                   v  - character $ or §
                                        $ - indirect command
                                        § - direct command
                                   'command' - rvs command
```

Example:

```
PF02 $DS
PF14 §Dv
PF23 $x rx2,all
```

This page will be intentionally empty.

6.9. rvs Procedures and JOBS

This chapter contains a description of all procedures or jobs, which are necessary (or helpful) for operation, use and maintanance of rvs.

6.9.1. rvs Start Procedure

The following example of a rvs Start Procedure is contained in member "MONITOR" of the rvs Tables Dataset on the installation tape:

```
//PDF0001A PROC PAPER='*',DUMP='*'
//MONITOR  EXEC PGM=DF130B00
//STEPLIB  DD  DSN=RVS.LOAD,DISP=SHR
//RVSDUMP  DD  SYSOUT=&DUMP
//MSGID    DD  DSN=RVS.TABLES(MSGID),DISP=SHR
//SYSWTO   DD  SYSOUT=&PAPER
//CNTLMSG  DD  DSN=RVS.TABLES(CNTLMSG),DISP=SHR
//CNTL     DD  DSN=RVS.TABLES(CNTL),DISP=SHR
//START    DD  DSN=RVS.TABLES(START),DISP=SHR
//INTRDR   DD  SYSOUT=(A,INTRDR)
//STATIONS DD  DSN=RVS.TABLES(STATIONS),DISP=SHR
//PROGPROF DD  DSN=RVS.TABLES(PROGPROF),DISP=SHR
//SESSIONS DD  DSN=RVS.TABLES(SESSIONS),DISP=SHR
//JOBCARD  DD  DSN=RVS.TABLES(JOBCARD),DISP=SHR
//JOBCARDF DD  DSN=RVS.TABLES(JOBCARDF),DISP=SHR
//STAPEJC  DD  DSN=RVS.TABLES(STAPEJC),DISP=SHR
//RTAPEJC  DD  DSN=RVS.TABLES(RTAPEJC),DISP=SHR
//SYSOUTJC DD  DSN=RVS.TABLES(SYSOUTJC),DISP=SHR
//FTPRVSJC DD  DSN=RVS.TABLES(FTPRVSJC),DISP=SHR
//KEY      DD  DSN=RVS.TABLES(USER),DISP=SHR
//PFKEYS   DD  DSN=RVS.TABLES(PFKEYS),DISP=SHR
//KEYDATA  DD  DSN=RVS.KEY,DISP=SHR
//TRNTABLE DD  DSN=RVS.TABLES(TRNTABLE),DISP=SHR
//Y        DD  SYSOUT=&PAPER
//PTABLES  DD  DSN=RVS.PTABLES,DISP=SHR
//USERDATA DD  DSN=RVS.USERDATA,DISP=SHR
//USERLOG  DD  DSN=RVS.USERLOG,DISP=SHR
//LOGDATA  DD  DSN=RVS.LOGDATA,DISP=SHR
//LOGLOG   DD  DSN=RVS.LOGLOG,DISP=SHR
//EXTCONF  DD  DSN=RVS.TABLES(EXTCONF),DISP=SHR
```

Explanation of the used DD statements:

STEPLIB	Allocation of the rvs load library.
RVSDUMP	Output of snap dumps written by rvs.
MSGID	Specification of messages which are to be written to the resource allocated with ddname "SYSWTO".
SYSWTO	SYSOUT protocol for rvs messages defined in member MSGID.
CNTLMSG	Control of console and rem. operating messages
CNTL	Specification of rvs start parameters.
START	Specification of automatically executed rvs commands.

INTRDR	Allocation of Internal Reader (for example used for jobstart after receiption of a dataset). Since version 4.01.00: If this statement is used, dynamic allocation/deallocation and open/close are used once only.
STATIONS	Allocation of rvs Stations Table (contains information about all connected stations).
SESSIONS	Allocation of rvs Sessions Table (information about the transmission protocol and other specifications, which are to be used for the communication with certain stations. This information is used for all transmissions working with the SNA component.
JOBCARD	Allocation of a valid jobcard (used for example if received datasets are to be copied to tape or sysout)
JOBCARDF	Allocation of a valid jobcard (used for for jobs of the FTP component)
STAPEJC	Job control used if a dataset queued for transmission resides on tape and must be copied to disk before transmission.
RTAPEJC	Job control used if a dataset is to be copied to tape after receiption (for example if the start parameter "DDEVTYP=TAPE" is active and no other control for receiption of this dataset has been specified)
SYSOUTJC	Job control to copy a received dataset into a SYSOUT queue (for example if the SYSOUT parameter has been specified within a resident receive entry for this dataset)
FTPRVSJC	Job control used for FTP file transfer (FTP component only)
KEY	Specification of member USER with license parameters
PFKEYS	Specification of member PFKEYS with definitions of RMOP PF keys (optional)
KEYDATA	rvs Security Key Data data set .
TRNTABLE	Code Translation Tables (optional, see chapter 6.11)
PTABLES	ULS (User Level Security) control data set
USERDATA	USP (Userseparation) user mapping dataset
USERLOG	USP (Userseparation) user mapping log
LOGDATA	USP (Userseparation) log event dataset
LOGLOG	USP (Userseparation) log event log
Y	Output results of the Y-commands written by rvs (optional)
EXTCONF	Configuration dataset for extended tracing of XOT and online encryption

Remarks:
USERDATA, USERLOG, LOGDATA, LOGLOG is only necessary if USP (User Separation) is used.

PTABLES is only necessary if ULS (User Level Security) is used.

Some allocations are not included within this start procedure. They will be done dynamically after start of rvs if necessary. Such allocations are:

ddname	Resource
KD	rvs Control Dataset (dynamic allocation will be done immediately after start of the rvs Monitor).
RVSLOG	rvs Log Dataset (dynamic allocation will be done immediately after start of the rvs Monitor).

A detailed description of the datasets and members within this procedure is contained in prior sections of this manual.

The DD statement for member "START" is optional, it may be omitted.

An example for an extended Start Procedure is contained in Appendix E of this manual.

6.9.2. Overview on rvs Transmissions

6.9.2.1. PDF0002A (obsolete)

PDF0002A is not supported anymore. You can use DF078B as a replacement (see 6.9.2.1)

The following example of a Procedure for display of executed transmissions is contained in member "PDF0002A" of the rvs Tables Dataset on the installation tape:

```
//PDF0002A  PROC  PAPIER='*',TAG=,DSN=,ORT=,SID=,ZZ=60,LVL=L1,DAY=
//****  PDF0002A  ************************************************
//*  OVERVIEW ON rvs TRANSMISSIONS                                *
//*************************************************************
//SDF078A  EXEC  PGM=DF078A00,
//        PARM='DSN=&DSN,SID=&ORT&SID,TAG=&TAG&DAY,ZZ=&ZZ,LVL=&LVL'
//STEPLIB  DD  DSN=RVS.LOAD,DISP=SHR
//SYSOUT   DD  DUMMY
//SYSPRINT DD  SYSOUT=&PAPIER
//KD       DD  DSN=dsname,DISP=SHR
//RVSLOG   DD  DSN=dsname,DISP=SHR
//TABLES   DD  DSN=dsname,DISP=SHR
//STATIONS DD  DSN=dsname,DISP=SHR
```

A detailed description of this procedure may be found in rvsMVS User Manual (rvsMVS Benutzerhandbuch).

6.9.2.2. DF078B

The following example of a JCL for display of executed transmissions is contained in member "DF078B" of the rvs Jobs Dataset:

```
//A        JOB
//*
//*
//* STEP FOR DELETING TEMP-FILES IF IT IS NECESSARY
//*
//DELTMP1 EXEC PGM=IDCAMS
//SYSPRINT DD    SYSOUT=*
//SYSIN    DD    *
     DELETE RVS.DF078B.ICEMAN
     DELETE RVS.DF078B.DF076A
     DELETE RVS.DF078B.RESULT
//*
//*
//* STEP FOR ALLOCATING A NEW TEMP-DATASET
//* SO IT CAN BE REFERENCED IN NEXT STEP BY 2 DDNAMES
//*
//ALCTMP  EXEC PGM=IEFBR14
//SYSPRINT DD DSN=RVS.DF078B.DF076A,
//            DISP=(NEW,CATLG),
//            UNIT=SYSDA,SPACE=(CYL,(500,500),RLSE)
//*
//* STEP FOR ALLOCATING THE NECESSARY DATASETS AND
//* STARTING THE REXX-SCRIPT IN A TSO-ENVIRONMENT
//*
//REXX    EXEC PGM=IKJEFT01
//SYSTSPRT DD SYSOUT=*
//LOAD     DD DSN=RVS.LOAD,DISP=SHR
//KDPARSER DD DSN=RVS.EXEC(KDPARSER),DISP=SHR
//KD       DD DSN=RVS.KD,DISP=SHR
//SYSIN    DD DSN=RVS.EXEC(SORT78B),DISP=SHR
//SYSPRINT DD DSN=*.ALCTMP.SYSPRINT,DISP=SHR
//SORTIN   DD DSN=*.ALCTMP.SYSPRINT,DISP=SHR
//SORTOUT  DD DSN=RVS.DF078B.ICEMAN,DISP=(NEW,CATLG),
//             UNIT=SYSDA,SPACE=(CYL,(500,500),RLSE)
//OUTFILE  DD DSN=RVS.DF078B.RESULT,DISP=(NEW,CATLG),
//             UNIT=SYSDA,SPACE=(CYL,(500,500),RLSE),
//             DCB=(LRECL=132,RECFM=FB,BLKSIZE=5900)
//*
//* TSO-COMMAND
//* HERE WE CALL THE REXX-SCRIPT
//*
//SYSTSIN DD *
  EXEC 'RVS.EXEC(DF078B)' 'DSN=FIX,LVL=L2,DAY=017' EXEC
//*
//* STEP FOR DELETING TEMP-FILES
//*
//DELTMP2 EXEC PGM=IDCAMS
//SYSPRINT DD    SYSOUT=*
//SYSIN    DD    *
     DELETE RVS.DF078B.DF076A
     DELETE RVS.DF078B.ICEMAN
```

The JCL will start the REXX-script “DF078B” which can be found in rvs Exec Dataset. The script fetches information from rvs control dataset with the use of DF076A. These data will be sorted and formatted similary to the output of DF078A.
Requirements for running DF078B:

- ICEMAN (alias for DFSORT)
- DF076A (shipped with rvsMVS)
- IDCAMS
- IKJEFT01 (TSO-Environment)

There are 4 files which are needed to run DF078B:

RVS.JOBS(DF078B)	JCL for allocating necessary datasets and starting the REXX-script.
RVS.EXEC(DF078B)	The main REXX-script which formats the output.
RVS.EXEC(SORT78B)	Configuration dataset for sort routine (ICEMAN).
RVS.EXEC(KDPARSER)	REXX-script for parsing the raw data of rvsMVS control dataset.

For executing the program there are 3 datasets necessary:

RVS.DF078B.RESULT	This dataset will contain the formatted output of DF078B.
RVS.DF078B.ICEMAN	This dataset will be used as output file for the sort routine (ICEMAN).
RVS.DF078B.DF076A	This dataset will be used as the output file for DF076A and contains the raw data of the control dataset.

The names of the datasets can be changed according your environment.

The JCL contains several Steps:

DELTMP1

This step deletes the temporary datasets which are needed to run the script and the result dataset.

ALCTMP

This step allocates the output dataset for DF076A (for the raw data from control dataset). The step is necessary because the file will be used by two DD-Statements.

Allocations:

- SYSPRINT the output datset for DF076A

REXX

This step starts the REXX-script ion a TSO-Environment.

Allocations:

- SYSTSPRT REXX-Messages (Sysout=*)
- LOAD rvsMVS-Loadlib
- KDPARSER the REXX-Script for parsing the control dataset
- KD rvsMVS control dataset
- SYSIN configuration dataset for sort routine
- SYSPRINT reference to DF076A output dataset
- SORTIN reference to DF076A output dataset
- SORTOUT the output dataset for sort routine (ICEMAN)
- OUTFILE dataset which contains the formatted output
- SYSTSIN start of the REXX-Script please use the following format:
  EXEC 'RVS.EXEC(DF078B)' 'OPTIONS' EXEC

DELTMP2

This step deletes the temporary datasets.

The configuration dataset of the sort routine may be changed according to your environment. Please refer manual for DFSORT for further information.

A detailed description of this procedure may be found in rvsMVS User Manual (rvsMVS Benutzerhandbuch).

6.9.3. Deleting old entries from the rvs Control Dataset

The rvs Controldataset contains - among others - records with information about executed transmissions of the last time. These records are not deleted automatically after some time. So it is necessary - in order to avoid space problems within the rvs Control Dataset - to execute the following procedure from time to time (for example once a week).

This procedure is contained in member "PDF0009A" of the rvs Tables Dataset on the installation tape:

```
//PDF0009A  PROC  PAPIER='*',R=RESERVE,DAYS=07,INTV=0
//****  PDF0009A  ************************************************
//*  DELETING OF OLD RECORDS FROM rvs CONTROL DATASET              *
//*************************************************************
//SDF079B  EXEC  PGM=DF079B00,PARM='&R,DAYS=&DAYS,INTV=&INTV'
//STEPLIB  DD    DSN=RVS.LOAD,DISP=SHR
//SYSPRINT DD    SYSOUT=&PAPIER
//KD       DD    DSN=dsname,DISP=SHR
```

Description of parameters for program DF079B00:

"RESERVE" or "NORESERVE" indicates whether deleting of records is to be done with exclusive control for the rvs Controldataset or not. If access to the rvs Controldataset is done from different systems, "RESERVE" should always be specified.
Default value: "RESERVE".

DAYS=nn This parameter indicates the number of days, for which the information about executed transmissions is at least to be kept. This means, that only records older than "nn" days will be deleted. "nn" may be a value between 7 and 99. Execution of this procedure results only in deleting of records representing complete transmissions. Send requests which are not complete processed or resident receive entries will never be deleted by this procedure. Make sure to set the parameter &#DFDAYKE in the start-CLIST for the ISPF-Panels to the same value.
Default value: "DAYS=7".

INTV=mm This parameter specifies the number of days, in which deleting of records will not be performed more than one time. This means, deleting of records will only be done if this procedure has not been executed within the last "mm" days.
Default value: "INTV=0".

INTRPT=YES This parameter allows interrupt processing. Execution of this program will be interrupted every 2 seconds followed by a wait time of 7 seconds. This kind of processing avoids long time periods in which the controldataset is in exclusive

control of only one job.
Default value: "INTRPT=NO".

Remark:
The rvs Controldataset will be allocated dynamically if this procedure is executed. The used ddname is "KD".

6.9.4. Saving and Recovery of the rvs Controldataset

The rvs controldataset is the central information file within rvs. The content of this file changes with every transmission, thus the requirements for a restore of this file in case of a catalog failure or disk error are different from those for other datasets. rvs has its own method to reconstruct a damaged controldataset without loss f any information at any time. The concept for this is as follows:

- All modifications of the rvs controldataset are recorded within the rvs logdataset. If this logdataset is full, any update of the controldataset is terminated by a user abend.

- At certain times (depending on the number of transmissions and the size of the logdataset) a copy of control- and logdataset must be done. Together with this copy, the Logdataset is marked empty again (PDF0014A).

- A damaged controldataset can be recovered without loss of any information, if the following steps are performed:
  - deleting the damaged file
  - creation of a new controldataset
  - copy of the last controldataset backup to the new file
  - merging of the logdataset (content since last backup copy of control- and logdataset) into the new file

The following two procedures are used for realization of the above described concept. They are content of the installation tape, members PDF0014A and PDF0015A (use PDF0015B in case of SMS) of the rvs Tables Dataset.

```
//PDF0014A  PROC  PAPIER='*',NOSAVE=00
//****  PDF0014A  ***************************************************
//*  BACKUP OF rvs CONTROLDATASET AND LOG FILE & RESET OF LOG FILE    *
//*                                                                   *
//*  USE IT IN CASE OF:                                               *
//*  LOG FILE IS FULL (JOB CAN RUN WITHOUT STOPPING THE MONITOR)      *
//*                          OR                                       *
//*  CONTROL DATASET MUST BE RECOVERED (IF IT IS DAMAGED)             *
//*  CONTROL DATASET MUST BE RE-ORGANIZED (IF IT IS FULL)             *
//*         (MONITOR MUST BE STOPPED + PDF0015A)                      *
//*******************************************************************
//SDF014A  EXEC  PGM=DF072A00,PARM='NOSAVE=&NOSAVE'
//STEPLIB  DD  DSN=RVS.LOAD,DISP=SHR
//SYSPRINT DD  SYSOUT=&PAPIER
//KD       DD  DSN=RVS.KD,DISP=SHR
//KDSAVE   DD  DSN=RVS.KD.SAVE,DISP=SHR
//RVSLOG   DD  DSN=RVS.LOG,DISP=SHR
//LOGSAVE  DD  DSN=RVS.LOG.SAVE,DISP=SHR
```

Remarks
The parameter "NOSAVE=nn" controls if a copy of control- and logdataset is to be created or not. "nn" specifies (in percent) the usage (filling) of the logdataset and may be a value between 00 and 99. A copy of control- and Log-dataset is performed only if the logdataset is at least filled by nn %.

This allows the combination of this procedure with the rvs Start procedure without creating backup copies during every start of rvs. See Appendix E of this manual for such a combination.

If execution of the procedure results in creation of backup copies, the program DF072A00 ends with returncode 0, if backup copies are suppressed because of the parameter "NOSAVE=nn", a returncode of 4 is set by DF072A00.

The datasets RVS.KDSAVE and RVS.LOGSAVE must be created before execution of this procedure or the allocation must be done with "DISP=(NEW,...). Both datasets are sequential files. RVS.KDSAVE requires 1/3 of the space which is allocated to RVS.KD, RVS.LOGSAVE requires the same space as RVS.LOG.
Specification of DCB attributes is not necessary, program DF072A00 uses hard coded values in each case. These are:

	LRECL	Blocksize	Record Format
RVS.KDSAVE	1000	6000	variable blocked (VB)
RVS.LOGSAVE	1000	6000	fixed blocked (FB)

Another control parameter may be specified for program DF072A00:
LOGSAVE=ASY. If this parameter is specified, no copy of the logdataset will be created. Only the currently used data area of the logdataset will be marked in this file.
Specification of this parameter may be useful to reduce the time used for the backup copy of the controldataset. No other access to the controldataset may be done within this time (RESERVE).

The default behavior of DF072A00 is exclusive control (RESERVE). It can be changed to NORESERVE by parameter PARM='NORESERVE,...' in the exec-statement of PDF0014A.

A backup copy of the logdataset (for example used for statistics) may be obtained after execution of program DF072A00. This copy does not require exclusive control (RESERVE), this means updates of the controldataset may be done even if the backup copy of the logdataset is created.

For this copy, the following jobstep may be used:

```
//LOGSAVE  EXEC  PGM=DF084A00
//SYSPRINT DD    SYSOUT=*
//RVSLOG   DD    DSN=RVS.LOG,DISP=SHR
//LOGSAVE  DD    DSN=RVS.LOGSAVE.TEMP,DISP=(NEW,...
```

Note1:
If a copy of the logdataset is not used, execution of this jobstep may be skipped. The copy of the logfile is not used for the recovery of the controldataset.

Note2:
If a copy of the logdataset shall be used for statistics, make sure that the execution of this job is not delayed too much. Depending on the size of the logdataset and the number of updates of the controldataset, the data of the logdataset to be copied may be overwritten by new data.

Procedure for recovery of rvs Controldataset (PDF0015A):

```
//PDF0015A  PROC  PAPIER='*'
//****  PDF0015A  ************************************************
//*  RESTORE OF rvs CONTROL DATA SET                              *
//*                                                               *
//*  USE IT IN CASE OF:                                           *
//*  CONTROL DATASET IS DAMAGED  OR  CONTROL DATASET IS FULL      *
//*  (PDF0014A MUST HAVE RUN PREVIOUS TO THIS PROCEDURE)          *
```

```
//*****************************************************************
//RECOVER  EXEC  PGM=IDCAMS
//STEPLIB  DD    DSN=SYS1.LINKLIB,DISP=SHR
//SYSPRINT DD    SYSOUT=*
//SYSIN    DD    *
   DELETE RVS.KD CLUSTER
   DEFINE CLUSTER -
           (NAME(RVS.KD) -
           CYL(3 1) -
           VOLUMES(volume) -
           FREESPACE(40 30) -
           KEYS(70 0) -
           SHAREOPTIONS(4 3) -
           RECORDSIZE(550 1000) -
           UNIQUE) -
          DATA -
           (NAME(RVS.KD.DATA) -
           CONTROLINTERVALSIZE(4096)) -
          INDEX -
           (NAME(RVS.KD.INDEX) -
           CONTROLINTERVALSIZE(1024))
/*
//SDF015A  EXEC  PGM=DF073A00
//STEPLIB  DD    DSN=RVS.LOAD,DISP=SHR
//SYSPRINT DD    SYSOUT=&PAPIER
//KD       DD    DSN=RVS.KD,DISP=SHR
//KDSAVE   DD    DSN=RVS.KDSAVE,DISP=SHR
//RVSLOG   DD    DSN=RVS.LOG,DISP=SHR
```

Remarks:
This procedure restores the rvs Controldataset. The following files are used for this:
Last backup copy of rvs Controldataset created by procedure PDF0014A, assigned with ddname KDSAVE.
Current rvs Logdataset (not the backup copy), assigned with ddname RVSLOG.

The backup copy of the rvs Logdataset is not used. So the resource assigned with ddname LOGSAVE in procedure PDF0014A may be set dummy. But - however - these data are used for example if rvs Statistics shall be created (see Appendix D within this manual).

In case of SMS you can use the example PDF0015B.

This page will be intentionally empty.

6.10. JCL Member for failing automatic Jobstart

The member "JFPJCL" of the rvs Tables Dataset may be used as a notification function in case of failing automatic jobstart. In such a case, rvs submits the content of member "JFPJCL" instead of the job which has been specified in the resident receive entry.
This member will be used only if the rvs start parameter "JFP=YES" has been specified. In this case member "JFPJCL" must be allocated with DD name "JFPJCL" within the rvs start procedure.

The following JCL is included in member JFPJCL on the distribution tape:

```
//A        JOB
//*****************************************************************
//*  MESSAGE PROTOCOL IN CASE OF FAILING AUTOMATIC JOBSTART         *
//*****************************************************************
//COPY1    EXEC  PGM=IEBGENER
//STEPLIB  DD    DSN=SYS1.LINKLIB,DISP=SHR
//SYSUT1   DD    *
-----------------------------------------------------------------
                                        &DAY, &TIME
AUTOMATIC JOBSTART OF rvs FAILED.
RECEIVED DATASET: &DSN, REMOTE STATION: &SID,
NEW DATASET NAME: &DSNNEW, DISK VOLUME: &VOL
JOB WHICH COULD NOT BE SUBMITTED BY rvs:
&JOBDSN(&MEM)
-----------------------------------------------------------------
/*
//SYSUT2   DD    SYSOUT=A
//SYSPRINT DD    SYSOUT=*
//SYSIN    DD    DUMMY
```

Remarks:

1. It is assumed that this member contains a complete job (incl. valid jobcard). The above job should be treated as an example, this member may contain any other job (steps) as well as the above job.

2. During submit of member JFPJCL, rvs performs replacements of the following characterstrings:
   - &DAY replaced by the current (julian) day within the year
   - &TIME replaced by the current time (format: HH MM)
   - &SID replaced by the identification of the remote (sending) station
   - &DSN replaced by the datasetname of the received dataset
   - &DSNNEW replaced by the new datasetname of the received dataset (important only if the rename function is used)
   - &VOL replaced by the disk volume number onto which the received dataset has been stored.
   - &JOBDSN replaced by the dataset name of the jobdataset (PDS)
   - &MEM replaced by the membername of the jobdataset (PDS member)
   - &RUSER replaced by the RACF userid (if available) of the job (user), who created the resident receive entry

3. Submit of member JFPJCL is performed only if access to the internal reader and to member JFPJCL is possible. Thus submit of this member cannot be performed in all situations when automatic jobstart fails, but will be performed in most of these situations (for example the jobmember which has been specified within the resident receive entry does not exist or the allocation of the jobdataset (PDS) failed).

4. It is not possible to display the reason for the failing automatic jobstart within this function (processing of the rvs start parameter "JFP=YES"). The reason for failing automatic jobstart must be obtained from the rvs error message which is displayed on console (hardcopy) at the time when the jobstart failed.

6.11. Code Translation

The member "TRNTABLE" of the rvs Tables Dataset may be used to perform code translation during file transmission.
This member contains code translation tables that are used when the parameter CODETRNS (see User Manual/Benutzerhandbuch) for send requests or resident receive entries is coded.
For using the member TRNTABLE of tables data Set it is necessary to insert a DD statement named TRNTABLE into your rvs Start Procedure to make this member well-known to rvs.

The following list is one example of a code translation table for EBCDIC to ANSI code translation. The table is preceded by it's name and must consist of 16 lines with 32 characters. Each character stands for one halfbyte in hexadecimal notation. Always two halfbytes are used to replace an respective byte in the dataset:

```
TABNAME=E2ANSI
20202020202020202020202020202020 00-0F
20202020202020202020202020202020 10-1F
20202020202020202020202020202020 20-2F
20202020202020202020202020202020 30-3F
2020202020202020202C42E3C282B21 40-4F
2620202020202020202DC242A293B5E 50-5F
2D2FC220202020202020F62C255F3E3F 60-6F
2020202020202020273A23A7273D22 70-7F
20616263646566676869202020202020 80-8F
206A6B6C6D6E6F707172202020202020 90-9F
20DF737475767778797A202020202020 A0-AF
20202020202020202020202020202020 B0-BF
E44142434445464748492020202020 C0-CF
FC4A4B4C4D4E4F505152202020202020 D0-DF
D6205354555657585 95A202020202020 E0-EF
303132333435363738392020202020 F0-FF
```

Assume the dataset consists of the following string:

EBCDIC: **"rvsMVS Rel. 1.4.04"**
Hexadec: **"99A5A2D4E5E240D985934B40F14BF44BF0F4"**

The first byte 'r' has a hexdecimal value of '99'x. On position '99'x in the table the value '72'x is found, which stands for an 'r' in ANSI character notation. So, this value is taken to replace '99'x in the dataset.
As result of the code translation the string would then be replaced by the following:

Hexadec: **"7276734D56532052656C2E20312E342E3034"**
ANSI: **"rvsMVS Rel. 1.4.04"**

For receiving an ANSI file the data must be translated from ANSI to EBCDIC. You can find the respective table ANSI2E in the member RVS.TABLES(TRNTABLE) on the installation tape. For translating ANSI files this table must be coded within a Resident Receive Entry: CODETRNS=ANSI2E (ses User's Manual/Benutzerhandbuch).

There are four standard tables that are used for code translation. The table names are $STDE2A, $STDA2E, $ODTE2A and $ODTA2E. You can find these tables in the member TRNTABLE of the dataset RVS.TABLES. These tables are hard-coded in the rvs programs and are used for code translation when CODETRNS=YES or FORMAT=TEXT is specified:

table name	parameter	direction
$STDE2A	CODETRNS=YES	Send
$STDA2E	CODETRNS=YES	Receive
$ODTE2A	FORMAT=TEXT	Send
$ODTA2E	FORMAT=TEXT	Receive

FORMAT=TEXT is a parameter used in the ODETTE File Transfer Protocol. When both CODETRNS=YES and FORMAT=TEXT are coded the standard tables $STDE2A and $STDA2E are used instead of $ODTE2A and $ODTA2E (for further information see User Manual/Benutzerhandbuch).

These four standard tables may be adapted to user's requirements when they are coded in the member TRNTABLE. The hard-coded tables are then overwritten by these tables. Also, any table may be taken even for FORMAT=TEXT by coding CODETRNS=owntable. The table "owntable" must be coded in the member TRNTABLE, as well.

6.12. Users and Permission Members in Permission Table

Basically User Level Security is provided by two features (that may not be used independently for other use cases):

- A user is represented by its own RACF User-ID and ODETTE-ID
- Permissions are applied, which files are permitted to be transferred from which sources to which destinations – Transfer Permission.

For usage of User Level Security you have to create a new PDS with the following members:

- for "user – virtual station" mapping
- send permissions
- receive permissions.

6.12.1. Users Table Member

The user – virtual station mapping is configured in the member USER. Layout:

- Each line that begins with an asterisk (*) is a comment line.
- Each non comment line defines a relation between a RACF user and a virtual station.
- The first user that maps to a certain station is its owner.

The syntax of the record:

1. Comment record
- (Column 1 (*) asterisk
2. "user – virtual station" mapping
   SID=ABC, USER=RACFUserID

Example:

```
* Comment
* first user of A21 is owner of A21
SID=A21,USER=FIX0GTE
SID=A21,USER=FIX0GG2
* station A24
SID=A24,USER=FIX0ABC
SID=A24,USER=FIX0DFF
SID=A24,USER=FIX0XYZ
* station A25
SID=A25,USER=FIX0ERT
```

This member defines 3 virtual stations: **A21, A24, A25**.

A21 has two users: the user with the RACF UserID **FIX0GTE** and the user with the RACF UserID **FIX0GG2**. The user **FIX0GTE** is the owner of the station **A21**.

A24 has 3 users: **FIX0ABC**, **FIX0DFF** and **FIX0XYZ**. **FIX0ABC** is the owner of **A24**.

A25 has only a user **FIX0ERT**, who is at the same time the owner of this station.

6.12.2. Permission Table Members

For each neighbour station (non virtual station) with the parameter ULS=YES is it necessary to define a permission table member.

Note: The term neighbour station is in this chapter also used as opposite to a virtual station.

The permission table of this neighbour station (with ULS=YES) consists of two members:

- A member for permissions in send direction
- A member for permissions in receive direction.

Both members are named according to the following syntax:

Receive direction: the name of the member should begin with 'RN#' indicating the receive direction and be followed by the StationID of the respective neighbour station (e.g. RN#R11).

Send direction: the name of the member should begin with 'SN#' indicating the send direction and be followed by the StationID of the respective neighbour station (e.g. SN#R11).

The both members have the following layout:

- Each line that begins with an asterisk is a comment line.
- The non comment lines contain the permission entries.

The structure of the records:

1. **Comment record**

   Column 1 '*' (asterisk)
2. **Restriction Entry**
   - VDSN (can end with asterisk as wildcard) (max of 26 char)
   - originator station ID (3 char, OSID)
   - destination station ID (3 char, DEST)

All fields for the restriction entries are key value pairs and must be separated by comma or blank. Each line describes permission for a restricted VDSN to/from this neighbour.

Example 1 (receive direction):

```
* member RN#R11 (receive permissions from neighbour R11)
* Comment
* local virtual stations are A*
* remote virtual stations are B*
* all receive permissions for neighbour R11
*
VDSN=B31.FIXR11*,OSID=B12,DEST=A14
VDSN=B31.TAXBILL*,OSID=B09,DEST=A13
VDSN=B31.DELIV09*,OSID=B03,DEST=A14
```

Example 2 (send direction):

```
* member SN#R11 (send permissions from neighbour R11)
* Comment
* local virtual stations are A*
* remote virtual stations are B*
* all send permissions for neighbour R11
*
VDSN=R11.FIXB11*,OSID=A10,DEST=B18
VDSN=R11.IMPORT2X*,OSID=A11,DEST=B02
VDSN=R11.DELIV33*,OSID=A14,DEST=B02
```

In the Example1 is configured:

- The own local virtual station **A14** is allowed to receive files beginning with **B31.FIXR11** from the remote virtual station **B12**.
- The local virtual station **A13** is allowed to receive files beginning with **B31.TAXBILL** from the remote virtual station **B09**.
- The local virtual station **A14** is allowed to receive files beginning with **B31.DELIV09** from the remote virtual station **B03**.

In the Example2 is configured:

- The own local virtual station **A10** is allowed to send files beginning with **R11.FIXB11** to the remote virtual station **B18**.
- The local virtual station **A11** is allowed to send files beginning with **R11.IMPORT2X** to the remote virtual station **B02**.
- The local virtual station **A14** is allowed to send files beginning with **R11.DELIV33** to the remote virtual station **B02**.

This page will be intentionally empty.

7. Running Installation Tests

This chapter describes some functions of rvs which should be tested in order to see if these functions are working as described or not. In the latter case, possible error information has to be analyzed and handling of rvs or a part of the installation must be corrected.

7.1. Start of rvs Monitor (Procedure PDF0001A - Alias MONITOR)

After installation of rvs the first step of testing should be the start of the rvs monitor (procedure PDF0001A). This may be done as job or started task.

After initialization of internal tables, the rvs monitor writes the message

```
DF3001A   ***  RVS OC READY  ***
```

to console. This message indicates that communication with the rvs monitor may be done by using the reply assigned with the above message. Any commands may be entered for the monitor (see the rvsMVS Operation Manual for a description of the rvs commands).
The monitor may be stopped by entering the command "P RVS".

During start of the monitor, all rvs startparameters are stored within the rvs control dataset (parameter record). This parameter record is used - for example - by the rvs ISPF panels, which may be tested after the first start of the monitor.

Test of switched BSC line(s):

Switched BSC lines should be activated within the monitor by entering the command "A lll", where "lll" denotes the subchannel address of the line. If everything is ok, message

```
DF5621A *A-lll* *** READY TO TRANSMIT ***          or
DF5503A *A-lll,lll* ***READY TO TRANSMIT ***
```

is displayed. The status indicated by this message is necessary for any transmission.

If none of the above messages is displayed, something does not work ok. In most cases, additional error messages will be written to console.

Depending on the kind of error (error message), the following things should be checked:
- definition of the line (subchannel) within the rvs stations table
- IODEVICE generation for this subchannel (parameter "UNIT=BSC2")
- EP generation of the control unit
- physical path between CPU, control unit and modem (hardware)

The line may be stopped again by entering the command "P lll".

Test of leased BSC line(s):

Leased BSC lines should be activated within the monitor by entering the command "A sid", where "sid" denotes the station identification of the remote station. For leased BSC lines there is a one to

one relationship between station identification and subchannel address for the assosiated line. After activation, the command "DS" should be used to obtain the status of the line. If activation is ok, one of the following messages will be displayed:

```
DF3019I *A-sid* LINE lll IS WAITING FOR WORK      or
DF3020I *A-sid,lll* REMOTE STATION IS NOT READY
```

If none of the above messages is displayed, something does not work ok. In most cases, additional error messages will be written to console.
Depending on the kind of error (error message), the following things should be checked:

- definition of the line (subchannel) within the rvs stations table
- IODEVICE generation for this subchannel (parameter "UNIT=BSC1")
- EP generation of the control unit
- physical path between CPU, control unit and modem (hardware)

The line may be stopped again by entering the command "P sid".

Test of SNA connections:

Before SNA sessions can be activated between local and remote installation, the rvs VTAM subtask must be started. This must be done by entering the command "A RVSVTAM". If activation was successful, message

```
DF9005I *** RVS VTAM CONTROL TASK READY ***
```

is displayed. If activation is not successful, error messages will be displayed which indicate the kind of error.

After activation of the rvs VTAM subtask, sessions to the remote station may be activated by entering the command "A sid". In this case, rvs tries to activate all sessions which are defined (stations table, session profile) for the remote installation. Message

```
DF9902I *F-sid nm* SESSION ESTABLISHED FOR LU luname CID=address
```

indicates successful activation of one session to the remote station. In case of error conditions error messages will be displayed instead of the above message.

Activated sessions may be stopped by entering the command "P sid".

Test of X25 connections:

Before X25 sessions can be activated between local and remote installation, the rvs X25 control task must be started. This must be done by entering the command "A RVSX25". If activation was successful, message

```
DF9501I RVS/X.25 CTCP INITIALIZATION COMPLETE
```

is displayed. If activation is not successful, error messages will be displayed which indicate the kind of error.

After activation of the rvs X25 control task, sessions to the remote station may be activated by entering the command "A sid". In this case, rvs tries to establish a switched virtual circuit (SVC) to the remote installation. Message

```
DF9401I   *F-sid* ODETTE TASK STARTED TYPE=type
```

indicates successful activation of the SVC to the remote station. In case of error conditions error messages will be displayed instead of the above message.

The SVC will be stopped automatically if there is nothing (more) to send (or receive) or if any error occurs.

X25 loop test
In order to verify your VTAM and NPSI generation you can start a simple loop test.

For the loop test you don't need a partner station, because you call your own station. The call packet is set up on one of your SVCs, routed back by the first switching node of the X.25 network and received by a second SVC of your multichannel link.
This implies that the multichannel link must have at least 2 SVC's and the rvs start parameter MAXSVC must specify a value of at least 2 SVC's.

The station you call is to be defined within STATIONS TABLE in the usual way (see chapter 6, X25-entry). The values of SID, ODETID and X25NUM must be identical to the values you coded for the local station (member CNTL of the TABLES dataset). Furthermore SENDPW and RECVPW must be equal and the parameter DIRECTN=B must be active (specified or by default) for both station definitions.

If you want to send data, you have to take care of different names on sender and receiver side ---> work with the rename function when queuing the dataset.

Test of TCP connections:

Before TCP/IP sessions can be activated between local and remote installation, the rvs TCP/IP control task must be started. This must be done by entering the command "A RVSTCP". If activation was successful, message

```
DF8301I TCP/IP INITIALIZATION COMPLETE, LV=...
```

is displayed. If activation is not successful, error messages will be displayed which indicate the kind of error.

After activation of the TCP/IP control task, sessions to the remote station may be activated by entering the command "A sid". In this case, rvs tries to establish a connection to the remote installation.
Message

```
DF8301I   *F-sid* CONNECT COMPLETE, S=...
```

indicates successful activation of a TCP/IP connection to the remote station. In case of error conditions error messages will be displayed instead of the above message.

The TCP/IP connection will be closed automatically if there is nothing (more) to send (or receive) or if any error occurs.

TCP/IP loop test
For the loop test you don't need a partner station, because you connect with your own station.

For the loop test, a station entry must be defined in the following way:

The station you call is to be defined within STATIONS TABLE in the usual way (see chapter 6, TCP-entry). The values of SID, ODETID and TCPPORT must be identical to the values you coded for the local station (member CNTL of the TABLES dataset). The TCPIPADR-parameter of the stations definition must specify the IP address of the local installation Furthermore SENDPW and RECVPW must be equal and the parameter DIRECTN=B must be active (specified or by default) for both station definitions.

If you want to send data, you have to take care of different names on sender and receiver side ---> work with the rename function when queuing the dataset.

7.2. Transmission of Datasets

The following steps must be performed for transmission tests (send, receive):

- creation of a dataset to be sent (size of about 50 records)
- queuing this dataset for transmission to the remote installation (this may be done with program DF080A00 or with the rvs ISPF panels (see rvsMVS User Manual (Benutzerhandbuch) for more details.
- creation of "resident receive entries" for the datasets to be received (necessary only if special functions like automatic jobstart shall be tested)
- start of the rvs monitor and the transmission component
- activation of BSC line(s) or activation of SNA session(s)

If a SNA connection is established (send session(s), receive session(s)), all transmissions of datasets which are queued for sending will be performed automatically by the rvs monitor, indicated by several messages.

If a leased BSC line is used for transmission, all transmissions of datasets which are queued for sending will be performed automatically by the rvs monitor after activation of the line within rvs and depending on the situation within the remote installation.

If a switched BSC line is used for transmission, after activation of the line within rvs the line connection to the remote installation must be established (dialing) and - for telephone lines - the modems on both sides must be switched from voice to data. Both, dialing and modem switching may be done manually or automatically, depending on the hardware capabilities and the definitions within rvs (autodial function).

If the line connection is established and the identification between local and remote station is complete, the datasets queued for sending will be transmitted.

Remarks:
If transmissions on BSC lines are not executed, a rvs trace (and in special cases a GTF trace (CCW trace)) should be activated for the used line in order to obtain more information about the failing transmission. These information together with the rvs messages of this situation should be discussed with the software producer.

The following station identification is used for VW AG:
R11 - Volkswagen AG Wolfsburg

If transmission tests are planned with VW AG Wolfsburg, the following name of datasets are used for tests:
„LOOPTEST"
When a dataset with this name is sent to station R11 (regardless of its content or file format), it will automatically be sent back to its original sender.

8. Special Functions (Procedures)

8.1. Using BSC Line(s) as Backup for SNA

This section contains a description of all definitions and actions, which are necessary if BSC line(s) shall be used as backup for a SNA connection between two rvsMVS installations.

1. rvs Station Table:

Both Stations Tables must contain entries for
- the SNA connection to the remote installation (parameter "ACME=VTAM")
- the (backup) connection to the remote installation (parameters "ACME=BTAM", "SNCL=lll")
- the line(s) (subchannel(s)) to be used (Parameter "LINE=nnn)

The entry for backup connection (parameter "ACME=BTAM") must be located within the stations table before the entry defining the SNA connection.

One of both station tables must assign a program profile defined as "master" to the entries for backup connection and line (subchannel) definition.

The other station table must assign a program profile defined as "slave"
to the entries for backup connection and line (subchannel) definition.

Remark:
A program profile for a line entry may be changed without stopping rvs if the following commands are entered:

P lll	stopping the line (subchannel) (if active)
F sid,PP=ppp	changing the program profile for the line
A lll	activating the line (subchannel)

2. Restrictions for backup operation:

rvs is not designed to support transmissions between two installations using BSC and SNA at the same time.

A restart of an abended transmission is possible only if the restart is done with the same access method (BTAM or VTAM) which was used when the transmission abended.

Therefore the command "S sid,,R" must be entered on both sides to suppress any restart if the access method for transmissions between both installations is changed (from BTAM to VTAM or from VTAM to BTAM).

8.2. rvs Trace

rvs allows starting a line trace (BSC lines), a session trace (SNA sessions, LU62 sessions, TCP sessions, FTP transmissions or X25 sessions) or an internal trace in order to

- get further information in fault situations

- be able to check correct execution of the rvs protocol when connecting non-IBM computers to rvs if the VDA File Transfer Protocol or the ODETTE File Transfer Protocol is used.

For each BSC line resp. each SNA, LU62, TCP, FTP or X25 session, a trace can be started (command "T ...", see rvsMVS Operation Manual for more details).

The rvs trace displays data which are available at the application program interface of the different access methods. The trace point is included in the line driver modules for the different access methods. In most cases the rvs traces are good enough for error detection. However some situations may require additional information. In these cases an external trace (GTF trace or hardware trace (datascope or similair utility) or a similar trace must be used.

The rvs internal trace includes information about the internal rvs processing, in most cases it does not include data concerning the line I/O.

8.2.1. Trace Output

All output of the different internal traces is written to the file allocated with DD-statement SYSWTO.

Output of the other rvs traces is written to SYSOUT class "E" by default. This value may be changed by using the rvs startparameter "TRACE" (see section 6.1) or by operator command "TRACE" (see rvsMVS Operations Manual). In this case, another SYSOUT class can be defined by the statement 'TRACE=x'.

It is also possible to write trace output into a disk dataset. In this case, the statement
"TRACE=pointer"
where "pointer" is a 2-8 character first level pointer of the dataset name, may be used as rvs start parameter or as an operator command.

In this case, a dataset with the name

```
pointer.LINExxx.TRACE          (BSC)   or
pointer.sid.nm.TRACE           (SNA)   or
pointer.XMLU.TRACE             (X25)   or
pointer.SESnnnnn.TRACE         (X25)   or
pointer.sid.SESnnnnn.TRACE     (X25)   or
pointer.sid.SESnnnnn.TRACE     (LU62)  or
pointer.TCPIPnn.TCPR.TRACE             (TCP)   or
pointer.TCPIPnn.sid.SOCsssss.TRACE     (TCP)   or
pointer.sid.TRACE              (FTP)
```

with xxx = Subchannel address of the line
sid = identification of remote station
nm = Session denomination
nn = index of TCP/IP control task
nnnnn = number of the used entry within SC-Table
sssss = used socket number

will be dynamically allocated on a disk volume which belongs to the unit group with the symbolic name as stated in the rvs start parameter "UNIT". If a dataset with an equal name is already cataloged, the existing dataset will be extended (use with DISP=MOD).

Example:

After entering the commands "TRACE=rvs" and "T ST1,S1", where S1 denotes the first send session to the remote station ST1, a dataset with name

RVS.ST1.S1.TRACE
will be allocated.

8.2.2. Start and Stop of rvs Trace

For leased BSC lines the trace is started and stopped by the commands "T-sid" and "O-sid".
With several lines to the same station you can choose one of them by stating the subchannel address lll:
"T-sid,lll" and "O-sid,lll".

For switched BSC lines the trace should be started and stopped by the commands 'T-lll' resp. 'O-lll' where "lll" denotes the subchannel address of the line.

For SNA sessions the trace is started and stopped by the commands "T-sid" resp. "O-sid" where "sid" denotes the station identification of the remote station. In this case, a trace is started on all sessions which are defined for the remote station (rvs stations table, rvs sessions table), independent wether the sessions are active or not.

By stating the denomination of the session, you can select single sessions:
"T-sid,mn" resp. "O-sid,mn"
where "m" denotes the type of the session:
O - operator session,
S - send session,
R - receive session
and "n" denotes the relative session number
0 - only one session of the specified session type is defined
1, 2 ... - first, second, ... session of the same session type

The rvs trace is automatically stopped with end of BTAM line control resp. VTAM session control (command: "P-sid" or "P-lll").

For X25 connections, different traces may be started for

- a certain remote station (command "T sid") the X25 Master Logical Unit, command "T XMLU"). This session is established during initialization of the X25 control task (CTCP) and is used to establish switched virtual circuits (transfer of callpackets).

- a certain switched virtual circuit (SVC) independent of the remote station (command "T VCLUnnn").

All traces for the X25 component are stopped automatically during termination (stop) of the X25 control task.

For TCP/IP connections, two different types of traces may be selected:

1. Trace of the server task (command 'T-TCPR'). This trace records the following events:
   - Accepting incoming connection requests
   - Receiving of the Odette protocol unit SSID
   - Sending of the Odette protocol units SSRM and SSID.

   This trace may be used in case of problems with incoming connection requests

2. Trace of a certain remote station (command 'T-sid'). This trace records all I/O-events for the specified station. For incoming connection requests, this trace starts with sending of the OFTP protocol unit SSID (the received SSID is not available in this case). For outgoing connection requests, the trace starts with the CONNECT-macro.

In case of parallel sessions to the remote station, different trace output is written for the different sessions (see trace-dataset names above).

8.2.3. Format of BTAM Trace (BSC lines)

For each executed BTAM macro a trace entry consisting of several rows is written. The individual entries are separated by a dashed line. An example is printed below.

Explanation of trace fields within a trace entry

1st row	column 1	Active function (S - send, R - receive dataset)
	column 3-5	Name of remote station
	DSN	Name of transmitted dataset
	VOL	Volume number of transmitted dataset
	KENN STAT IND1	International fields of line control program
	TIME	Time of day
	BLKS	Number of line blocks (line buffers) transmitted since start of this dataset
	BYTES	Number of characters transmitted since start of this dataset.
2nd row	Column 3-5	subchannel address of the line All other fields are internal fields of the line control program
3rd row		Listing of the BTAM control block DECB. A short explanation of these fields is given in the prefix of the trace.
4th row etc.		The following rows describe the channel program pointed to in the DECB, containing the respective buffer contents in dump format.

Only those CCWs can be listed which are available in main storage after termination of the BTAM macro. If BTAM has started several channel programs during execution of the macro (eg. repetitions in case of line faults), only the CCWs executed last can be listed.

Example for a trace of a BSC line:

```
------------------------------------------------------------------------------------------------------------------------
S-SXX*  DSN=DVV.R11SXX.A3146W          VOL=W80111  KENN=42  STAT=00  IND1=00  TIME=  9.57.353 BLKS=00482  BYTES=0040082
  0AF* PGMADDR=002208/001E42  OPT=F600F080 0000  FEAT=00  RETRY=03  TOTRET=01  TSTAT=B0  AQ=006  BITS=61
DECB  P=7F  OP=14  SN=00 L=004C  R=0000  CC=02  FLAG=00  RESP=1061  TPCD=A5  ERRST=00  CSWST=0C00         BUFFADDR=1177FA
CCW=011177FA 6011004C  WRITE 1002E3C4E5E54BD9 F1F1E2E7E74BC1F3 F1F4F6E640404040 404040F0F0F4F8F2    ..TDVV.R11SXX.A3146W       00482
                       F0F0F0F3F8F5F6F0 F0F0F8F0F0F0F8F0 F040D9F1F1E2E7E7 4040404040404040    00038560008000800 R11SXX
                       4040404040404040 40404040
CCW=01112166 60130002  WRITE 1003                                                             ..
CCW=021120BA 20A50002  READ  1061                                                             ./
------------------------------------------------------------------------------------------------------------------------
S-SXX*  DSN=DVV.R11SXX.A3146W          VOL=W80111  KENN=42  STAT=00  IND1=00  TIME=  9.57.359 BLKS=00482  BYTES=0040158
  0AF* PGMADDR=002208/001F6A  OPT=F600F080 0000  FEAT=00  RETRY=03  TOTRET=01  TSTAT=B0  AQ=006  BITS=61
DECB  P=7F  OP=0A  SN=00 L=004C  R=0001  CC=02  FLAG=00  RESP=2D00  TPCD=8B  ERRST=00  CSWST=0C00         BUFFADDR=1177FA
CCW=01112170 60210001  WRITE 37                                                               .
CCW=021120BA 208B0002  READ  2D                                                               .
------------------------------------------------------------------------------------------------------------------------
A-SXX*  DSN=                           VOL=        KENN=42  STAT=00  IND1=00  TIME=  9.57.376 BLKS=00482  BYTES=0040158
  0AF* PGMADDR=002568/002512  OPT=F600F080 0000  FEAT=00  RETRY=03  TOTRET=01  TSTAT=B0  AQ=005  BITS=60
DECB  P=7F  OP=03  SN=00 L=0800  R=07AC  CC=02  FLAG=00  RESP=0000  TPCD=91  ERRST=00  CSWST=0C00         BUFFADDR=115FBE
CCW=01112168 60080002  WRITE 1070                                                             ..
CCW=02115FBE 20910800  READ  1002D9C4E5E54BD9 F1F1E2E7E74BC1F3 F1F4F6E640404040 404040F0F0F4F8F2    ..RDVV.R11SXX.A3146W       00482
                       F0F0F0F3F8F5F6F0 F0F0F8F0F0F0F8F0 F040D9F1F1E2E7E7 4040404040404040    00038560008000800 R11SXX
                       4040404040404040 4040404040404040 40404003                                                .
------------------------------------------------------------------------------------------------------------------------
```

8.2.4. Format of VTAM Trace (SNA sessions)

For each executed VTAM macro a trace entry consisting of several rows is written. The individual entries are separated by a dashed line. An example is printed on the next page.

Explanation of trace fields:

1st row	SID	Name of remote station
	SESSION	Denomination of the session
	DSN	Name of transmitted dataset
	VOL	Volume number of transmitted dataset
	DATE	Date in the form yy/ddd
	TIME	Time of day
2nd - 5th row	RPLADDR	Address of used RPL
	RPLDATA	Used RPL in hexadecimal. A short explanation of this VTAM control block is given in the prefix of the trace.
	RC=xx-yy-zz	Returncodes xx = register 15 yy = register 0 zz = feedback code For the meaning of these codes see the IBM manual SC27-0449 ACF/VTAM Programming.
6th row		Name of the VTAM macro issued. For SEND and RECEIVE macros the contents of the buffer pointed to is printed in dump format.

Example for a trace of an SNA session:

```
-------------------------------------------------------------------------------------------------------------------------
SID = R11, SESSION = S2, DSN = DDF.RV1R11.TEST11                    , VOL = ELW104, DATE = 87/139, TIME = 11.21.3852
         RPLADDR = 00016928     RPLDATA = 00202370 500406D4 00016918 00000000 E0001000 00800000 0003C9B0 0380E000
                                          00016260 03000084 29800000 00000000 000000F8 0000010C 10309450 00000000
             RC = 00-00-00               80800001 40000000 00000000 00000000 00000000 00000000 00000000 000349DC
                                          80008010 00000000 00000000 00000000

   RECEIVE  C1C4C4C6 4BD9E5F1 D9F1F14B E3C5E2E3 F1F14040 40404040 40404040 40404040  *ADDF.RV1R11.TEST11             *
            40404040 40404040 40404040 40F8F7F1 F3F9F1F1 F1F9F0F0 F8D9E5F1 40404040  *            871391119008RV1    *
            40D9F1F1 40404040 40404040 40404040 40404040 40404040 40404040 40404040  * R11                           *
            4040F0F0 F0F0F0F0 F0404040 40404040 4040D6F3 F2F1F8F7 F4F0F0F0 F0F0F040  *  0000000         O321874000000 *
            40404040 40404040 40404040 40404040 40404040 40404040 40404040 40404040  *                               *
            40404040 40404040 40404040 40404040 40404040 40404040 40404040 40404040  *                               *
            40404040 40404040 40404040 40404040 40404040 40404040 40404040 40404040  *                               *
            40404040 40404040 40404040 40404040 40404040 00000000                                          ....     *
-------------------------------------------------------------------------------------------------------------------------
SID = R11, SESSION = S2, DSN = DDF.RV1R11.TEST11                    , VOL = ELW104, DATE = 87/139, TIME = 11.21.3963
         RPLADDR = 00016928     RPLDATA = 00202270 500405CE 00000000 00000000 E0801000 00800000 0003C9B0 0380E000
                                          00016260 03000084 20800000 00000000 000000F8 0000010C 10309450 00000000
             RC = 00-00-00               80800001 40000000 00000000 00000000 00000000 00000000 00000000 000349DC
                                          80008010 00000000 00000000 00000000

   SEND      STYPE=RESP  RESPOND=(NEX, FME,NRRN)
-------------------------------------------------------------------------------------------------------------------------
```

8.2.5. Format of LU6.2 Trace

For each executed APPC command a trace entry consisting of several rows is written. The individual entries are separated by a dashed line. An example is printed on the next page.

Explanation of trace fields:

1st row	SESSION	Denomination of the session
	LU NAME	Your own logical unit name
	MODE NAME	Used logmode for this session
	REMOTE STATION	Name of remote station
	DATE	Date in the form yy/ddd
	TIME	Time of day
2nd - 5th row	RPLADDR	Address of used RPL
	RPLDATA	Used RPL in hexadecimal. A short explanation of this VTAM control block is given in the prefix of the trace.
	RC=xx-yy-zz	Returncodes xx = register 15 yy = register 0 zz = feedback code For the meaning of these codes see the IBM manual SC27-0449 ACF/VTAM Programming.
6th row:		Name of the APPC command issued. For SEND and RECEIVE macros the contents of the buffer pointed to is printed in dump format.

Example for a trace of a LU6.2 session:

```
-------------------------------------------------------------------------------------------------------------------------
SESSION:  SCT ENTRY 00001 LU NAME: XLUNAME1  MODE NAME: MODNAME1 REMOTE STATION: LU6  DATE = 92/223, TIME = 13.28.5197
          RPLADDR = 07945538     RPLDATA = 00206270 87953B66 079454C8 00000000 00001004 00800000 00038310 00000000
                                           07945378 00000000 29800000 00000000 00000013 00000000 10309450 00000000
               RC = 00-00-00               80800000 40000000 00000000 079455A8 00000000 00000000 00000000 00000000
                                           80008012 00000000 00000000 00000000

                        RPL EXTENSION = C1D7D7C3 10140000 0100000A 00000000 00000000 00000000 00000000 08000000
                                        00BE090B 3AC0009B 00000000 80008800 000000F8 0000010C 10309450 00000000
                                        00001000 01000000 00000000 07945538 E7D3E4D5 C1D4C5F1 D4D6C4D5 C1D4C4F1
                                        00000000 00000000 00000000 00000000

   APPCCMD CONTROL=ALLOC,QUALIFY=ALLOCD       WHATRCV=ZERO
   RETURNCODE (PRI/SEC): 00000000 - OK

            130502FF 0003D100 0006D9E5 E2D9C3E5 00000000                          *... ..J...RVSRCV...

-------------------------------------------------------------------------------------------------------------------------
```

8.2.6. Format of TCP/IP Trace

For each executed TCP/IP command (socket interface, assembler macro API) a formatted trace record consisting of several rows is written. Trace records are separated by a line of hyphens. An example is printed on the next page.

Explanation of trace fields:

1st row	SOCKET	Local socket number
	REMOTE ADDRESS	IP-address of remote station
	REMOTE PORT	Remote port number. This portnumber varies for each connection, it is different from that as specified whithin the rvs stations table for the remote station.
	REMOTE STATION	Rvs-ID of remote station
	DATE	Date in the form yy/ddd
	TIME	Time of day
2nd row	REQUEST	Type of request (CONNECT, ACCEPT, READ, WRITE, CANCEL, CLOSE)
	Status of request	(issued) or (complete). In most cases trace records are written only after completion of a request.
3rd row and following	Request-dependent data and parameter	For READ and WRITE, the received (sent) data are displayed in a dump format. ODETTE protocol records are additionally displayed formatted. For CONNECT (ACCEPT), parameters like local IP-address and local port number are displayed. For all completed requests the return / error code is displayed. The meaning of these codes depends on the executed request, for more details see IBM TCP/IP for MVS, Application Programming Interface, Reference.

Example for a trace of a TCP/IP session:

```
-------------------------------------------------------------------------------------------------------------------------

SOCKET: 00001  REMOTE ADDR: 010.210.208.130  REMOTE PORT: 01392  REMOTE STATION: RV1  DATE = 99/175, TIME = 08.31.4133
REQUEST: WRITE         (COMPLETE)

   DATA =   10000041 58314F30 30313330 30303030 31565720 20202020 20525654 20202041  *...AX1O00013000001VW      RVT   A*
            41412020 20202030 30313238 4259594E 30303120 20202020 20202020 20202020  *AA     00128BYYN001             *
            0D                                                                       *
                             *

            ODETTE PROTOCOL UNIT:  START SESSION IDENTIFICATION (SSID)

            SSIDCMD  - X                              COMMAND IDENTIFIER
            SSIDLEV  - 1                              PROTOCOL VERSION LEVEL
            SSIDCODE - O00013000001VW      RVT        INITIATOR IDENTIFICATION
            SSIDPSWD - AAA                            INITIATOR PASSWORD
            SSIDSDEB - 00128                          EXCHANGE BUFFER SIZE
            SSIDSR   - B                              SEND/RECEIVE INDICATOR (S/R/B)
            SSIDCMPR - Y                              COMPRESSION INDICATOR
            SSIDREST - Y                              RESTART OPTION (Y/N)
            SSIDSPEC - N                              SPECIAL LOGIC INDICATOR
            SSIDCRED - 001                            EXCHANGE BUFFER CREDIT
            SSIDRSV1 -                                RESERVED
            SSIDUSER -                                USER FIELD
            SSIDCR   -
                             CARRIAGE RETURN

          COMPLETION: SUCCESSFUL        RETCODE/ERRCODE: 00065/-----
-------------------------------------------------------------------------------------------------------------------------

SOCKET: 00001  REMOTE ADDR: 010.210.208.130  REMOTE PORT: 01392  REMOTE STATION: RV1  DATE = 99/175, TIME = 08.31.4133
REQUEST: READ  LENGTH: 0004 HEX (00004 DEC)

   DATA =   10000005                                                                 *                              *
          COMPLETION: SUCCESSFUL        RETCODE/ERRCODE: 00004/-----
-------------------------------------------------------------------------------------------------------------------------

SOCKET: 00001  REMOTE ADDR: 010.210.208.130  REMOTE PORT: 01392  REMOTE STATION: RV1  DATE = 99/175, TIME = 08.31.4133
REQUEST: READ  LENGTH: 0001 HEX (00001 DEC)

   DATA =   52                                                                       *R                             *

            ODETTE PROTOCOL UNIT:  CHANGE DIRECTION (CD)

            CDCMD    - R                              COMMAND IDENTIFIER

          COMPLETION: SUCCESSFUL        RETCODE/ERRCODE: 00001/-----
-------------------------------------------------------------------------------------------------------------------------
```

8.2.7. Format of FTP Trace

The FTP trance of rvs contains the events on the interface between rvs and the FTP. That means, it includes:

- the content of additional control files (information file alias header, response file alias trailer and the end-to-end response file)
- the FTP job created by rvs
- the FTP commands to be executed within the FTP job
- the FTP output (return messages while execution of FTP commands)

A dashed line separates the individual entries. An example of a complete trace is printed on the next pages.

An example shows the complete contents of an rvsMVS/FTP trace file (send direction):

```
*******************************************************************************
*                          TRACE STARTED         DATE = 97/133, TIME = 11.21.2396
*******************************************************************************

TRACE DATA BLOCK  - FTP HEADER FILE ---> SEND

REMOTE STATION    - FA4
DATASET NAME      - FIX0004.TESTX33
QUEUEING TIME     - 97/133  11:19:50

 HFIDCMD          - H
 HFIDDSN          - FIX0004.TESTX33.FA4.F000019
 HFIDDATE         - 1997/05/13
 HFIDTIME         - 11:19:50
 HFIDUSER         -
 HFIDSIDC         - FD2
 HFIDSIDS         - FA4
 HFIDDEST         - O0013000001VW      FA4
 HFIDORIG         - O0013000001VW      FD2
 HFIDFMT          - F
 HFIDLREC         - 00138
 HFIDFSIZ         - 0000013
 HFIDRESP         - Y
 HFIDEERP         - Y

-------------------------------------------------------------------------------

TRACE DATA BLOCK  - FTP JOB FILE ---> SEND

REMOTE STATION    - FA4
DATASET NAME      - FIX0004.TESTX33
QUEUEING TIME     - 97/133  11:19:50

JOBNAME          - JDFA4001

//FIX00031 JOB (ABCDEFG,000,00,'                                          '),
// 'XXXXXXXX  ABC-DEF',NOTIFY=*******,
// CLASS=A,MSGCLASS=B,PRTY=9,TIME=(0030)
//* ************************************************************
//*                                                              *
//*       RVS-JOBCARD                                            *
//*                                                              *
```

```
//* ***************************************************************
//*MAIN SYSTEM=XR33
//RVSFTP1  EXEC PGM=FTP
//STEPLIB  DD  DSN=SYS1.LINKLIB,DISP=SHR
//SYSUDUMP DD  SYSOUT=*
//SYSDUMP  DD  SYSOUT=*
//INPUT    DD  DISP=SHR,
//         DSN=FIX0GG3.FTP.FTPID.FD2FA4.FA4.F000019
//OUTPUT   DD  DISP=OLD,
//         DSN=FIX0GG3.FTP.FTPOD.FD2FA4.FA4.F000019
//SYSPRINT DD  SYSOUT=*
//RVSFTP2  EXEC PGM=IEBPTPCH
//SYSPRINT DD  SYSOUT=*
//SYSUT1   DD  DSN=*.RVSFTP1.OUTPUT,DISP=OLD
//SYSUT2   DD  SYSOUT=*
  PRINT    MAXFLDS=1
  RECORD   FIELD=(80)
//RVSFTP3  EXEC PGM=IEFBR14
//NEW      DD  DISP=(NEW,CATLG,CATLG),
//             DCB=*.RVSFTP.INPUT,SPACE=(TRK,(1,1)),
//         DSN=FIX0003.TEST.FTPND.FD2FA4.FA4.F000019

 ------------------------------------------------------------------------------

 TRACE DATA BLOCK  - FTP OUTPUT FILE ---> SEND

 REMOTE STATION    - FA4
 DATASET NAME      - FIX0004.TESTX33
 QUEUEING TIME     - 97/133  11:19:50

 EZA1450I MVS TCP/IP FTP V3R1
 EZA1456I OPEN (name of foreign host):
 EZA1772I FTP: EXIT has been set.
 EZA1736I conn 143.163.23.4 00021
 EZA1554I Connecting to 143.163.23.4, port 21
 220-$FTPSER IBM MVS V3R1 at OR11, 11:21:17 on 05/13/97
 220 Connection will close if idle for more than 50 minutes.
 EZA1459I USER (identify yourself to the host):
 EZA1701I >>>USER FIX0004
 331 Send password please.
 EZA1701I >>>PASS ********
 230 FIX0004 is logged on.
 EZA1460I Command:
 EZA1736I TYPE E
 EZA1701I >>>TYPE e
 200 Representation type is EBCDIC.
 EZA1460I Command:
 EZA1736I MODE S
 EZA1701I >>>MODE s
 200 Data transfer mode is Stream.
 EZA1460I Command:
 EZA1736I PUT 'FIX0003.BX' 'FIX0004.TESTX33.FA4.F000019'
 EZA1701I >>>SITE FIXrecfm 138 Lrecl=138 Recfm=FB BLKSIZE=18630
 200 Site command was accepted
 EZA1701I >>>PORT 143,163,32,2,4,31
 200 Port request OK.
 EZA1701I >>>STOR 'FIX0004.TESTX33.FA4.F000019'
 125 Storing data set FIX0004.TESTX33.FA4.F000019
 250 Transfer completed successfully.
 EZA1617I 13761 bytes transferred in 1.020 seconds. Transfer rate 13.49 Kbytes/s
 EZA1460I Command:
 EZA1736I TYPE E
 EZA1701I >>>TYPE e
```

```
200 Representation type is EBCDIC.
EZA1460I Command:
EZA1736I MODE B
EZA1701I >>>MODE b
200 Data transfer mode is Block.


EZA1460I Command:
EZA1736I PUT 'FIX0003.TEST.FTPHD.FD2FA4.FA4.F000019' 'FIX0004.TEST.FTPHD.FD2FA4
EZA1701I >>>SITE FIXrecfm 160 Lrecl=160 Recfm=FB BLKSIZE=16000
200 Site command was accepted
EZA1701I >>>PORT 143,163,32,2,4,32
200 Port request OK.
EZA1701I >>>STOR 'FIX0004.TEST.FTPHD.FD2FA4.FA4.F000019'
125 Storing data set FIX0004.TEST.FTPHD.FD2FA4.FA4.F000019
250 Transfer completed successfully.
EZA1617I 163 bytes transferred in 0.504 seconds. Transfer rate 0.32 Kbytes/sec.
EZA1460I Command:
EZA1736I QUIT

-------------------------------------------------------------------------------

TRACE DATA BLOCK  - FTP TRAILER FILE ---> RECEIVE

REMOTE STATION    - FA4
DATASET NAME      - FIX0004.TESTX33
QUEUEING TIME     - 97/133  11:19:50

  TFIDCMD         - T
  TFIDSTATUS      - 000
  TFIDDSN         - FIX0004.TESTX33
  TFIDDATE        - 1997/05/13
  TFIDTIME        - 11:19:50
  TFIDUSER        -
  TFIDSIDC        - FD2
  TFIDSIDS        - FA4
  TFIDDEST        - O0013000001VW      FA4
  TFIDORIG        - O0013000001VW      FD2

-------------------------------------------------------------------------------

TRACE DATA BLOCK  - FTP END TO END RESPONSE FILE ---> RECEIVE

REMOTE STATION    - FA4
DATASET NAME      - FIX0004.TESTX33
QUEUEING TIME     - 97/133  11:19:50

  EEIDCMD         - E
  EEIDSTATUS      - 000
  EEIDDSN         - FIX0004.TESTX33
  EEIDDATE        - 1997/05/13
  EEIDTIME        - 11:19:50
  EEIDUSER        -
  EEIDSIDC        - FA4
  EEIDSIDS        - FD2
  EEIDDEST        - O0013000001VW      FD2
  EEIDORIG        - O0013000001VW      FA4

-------------------------------------------------------------------------------
*******************************************************************************
*                          TRACE STOPPED        DATE = 97/133, TIME = 11.22.1320
*******************************************************************************
```

9. rvs Features

9.1. Feature Architecture

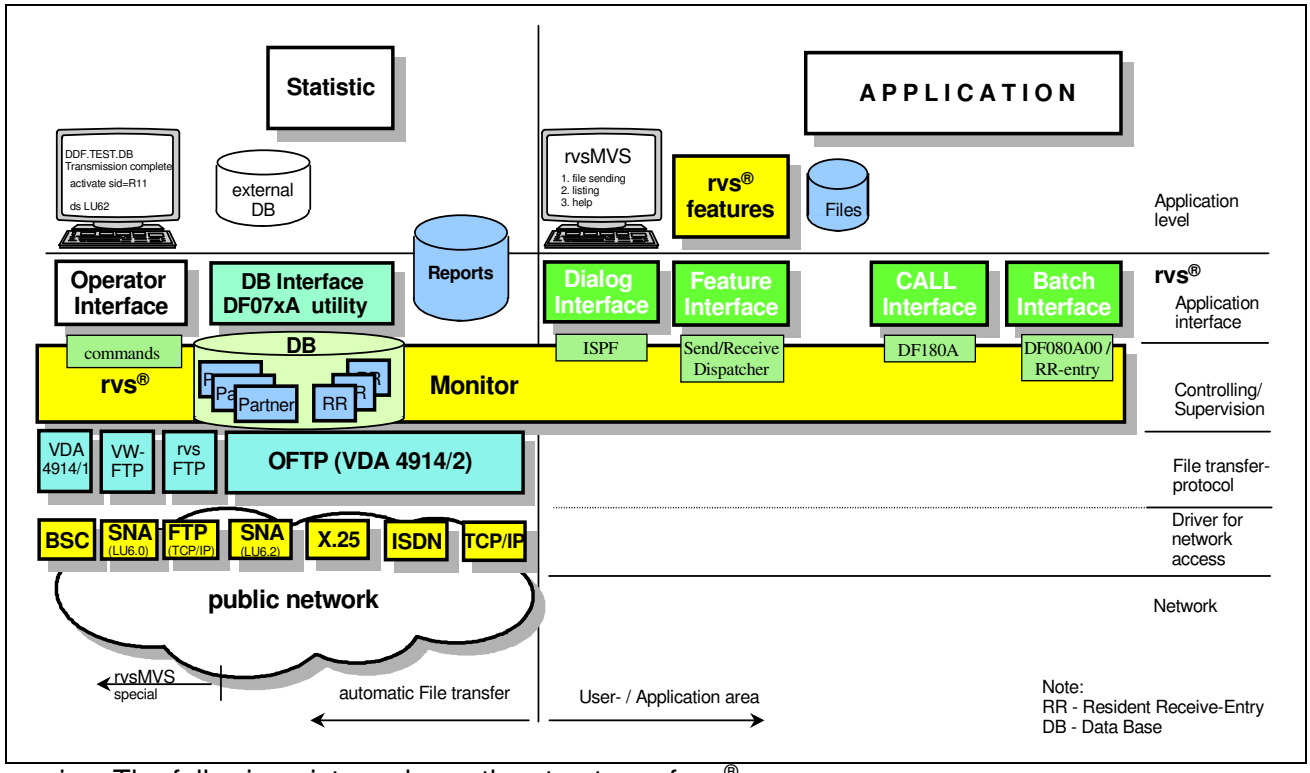
In a layer architecture view rvs® works between the network layer at the bottom and the application layer on top. To connect applications with rvs® there are some important interfaces

- to pass to rvs® the parameter to send data sets (user interface with ISPF or batch program DF080A00,
- to call rvs® by applications (call interface by DF180A).
- to call applications after receiving a data set (call interface using Resident Receive Entries),

rvs® external Features are located at this level between the application layer and rvs®. It works as a part of the application layer controlled by rvs®-Monitor. In the past there are some features comparable with this

- to control output for SYSOUT
- to send data to RJE
- to handle PDS data sets

which are located at the same external feature level. The new External Compression and External Security Feature enhances this interface layer to prepare and to finish data transfer with more



service. The following picture shows the structure of rvs®:

Abb. Structure of of rvsMVS wit rvs® Features

To handle this features inside rvs® some special information will be transferred in front of the data with which the receiving rvs® is able to call the services necessary to create the file. Because of the layer architecture rvs® handles this on top of the file transfer protocol. Therefore such a file may be routed through other stations without any influence over or from this stations. Especially in

case of using OFTP as file transfer protocol the temporarily stored file isn't readable or processable without using special rvs® programs.

Using OFTP rvs® transfers the following special control information from the sender to the receiver in case of

- **rvsMVS PDS File Transfer**
  Use of the complete user fields of SSID and SFID OFTP protocol record. This fields contain some flags leaded by an eye catcher: '**RF)**' for initiator's outgoing protocol records and '**RF(**' for incoming protocol records.
- Additionally rvsMVS uses a SFID extension (**SFX1**) to transfer partitioned data set information.
- **rvs internal compression** (GZIP compatible)
  Use of the complete user fields of SSID and SFID OFTP protocol record. This fields contain some flags leaded by an eye catcher (**RF)** / **RF(**).
- **rvs external Security and Compression Feature**
  Enhancement of the first data block with an rvs header (leaded by an eye catcher which consists of the string '**RVSF**' with some hex characters, in total 10 characters). The length of the complete header is variable and depends on the used features.

9.2. Partioned Data Set (PDS) Transfer

The PDS-Transfer Feature of rvsMVS for OFTP stations uses the well known functions of PDS-Transfer from the rvsMVS SNA component.

- unload of a PDS during creation of Send Request
- load of the PDS data set after receiving

Whereas the header record of the SNA component transfers the data set attributes OFTP Protocol architecture gives no place for such information. Therefore the OFTP Protocol will be enhanced by

- use of the SSID USER field
- use of the SFID USER field
- creation of the new protocol record SFX1.

This enhancement will be used only if the station parameter **TYPE=MVS** is given. This means that in preparing the connection both partners have to make an agreement about the use of this feature and to inform rvsMVS about it by setting this parameter. It serves to avoid connections to a partner which needs a blank USER field.

On the SSID level the USER field serves to inform the partner about the intended / availabled process of PDS Transfer. Therfore it contains the eyecatcher described above 'RF)' or 'RF(' and the value '8' in the fourth byte. Additional combinations of this value with the values '4', '2' and '1' are possible and inform about more additional properties.

On the SFID level the USER field serves to inform the partner about the use of the feature for this transmission. The construction of the field is equal to the SSID USER field. Value '8' (or a combination with it) shows the start of a PDS transfer.

Instead of the first data buffer rvsMVS sends a special protocol record. This record contains all data set attributes of the unloaded PDS data set. The structure of this protocol record follows:

Field Name	Definition	Type	Field Description
SFX1	DS	C	Eye chatcher
SFX1CMD	EQU	X‘42‘	character ‘B‘
SFX1VER	DS	C	Version Number
SFX1VER1	EQU	X‘31‘	Version 1
SFX1UNRF	DS	CL2	RECFM) of unloaded PDS (DCBRECFM-format)
SFX1UNLR	DS	CL5	LRECL)
SFX1UNLB	DS	CL5	BLKSIZE)
SFX1PDSF	DS	CL2	RECFM) of PDS (DCBRECFM -format)
SFX1PDSL	DS	CL5	LRECL)
SFX1PDSB	DS	CL5	BLKSIZE)
SFX1PDSD	DS	CL5	number of Directory Blocks
SFX1RVS	DS	CL33	reserved (initialized with X‘20‘)

9.3. External Compression

External Compression Feature consists of a program which works along the GZIP algorithm (rfc 1952). Data sets will be reduced in best cases until 30 percent, only in the case of very small files the added process information will expand the user data set size.

Because of this feature is not free of charge it is necessary for using External Compression to install a new rvsMVS license key.

There are no additional installation steps to the well known rvsMVS installation to use this feature. Only the parameter **COMPRESS=EXT** has to inserted into the STATION entry to inform about the partner capability.

Please refer to chapter 6.1. and 6.2.

9.3.1. 2 Steps to Prepare the Use of External Compress Feature

The following chapter gives a short description of **'How to prepare ....'**

Step	What to do...	Help is where...
	Install rvsMVS	chapter 5.1
1	**Get a valid license with security code 'Z'**	gedas
2	**Add the parameter COMPRESS=GZIP to partner's station entry**	chapter 6.2.0
	Now the rvsMVS user is available to send data:	
user	Create a send request	see USER Manual
	All remaining steps will be done by rvsMVS automatically....	

9.4. External Security

The Security Feature of rvs® uses both a symmetric cipher (3DES) and a public/private-key cipher (RSA). The encryption works by using a public/private-key cipher to share a key for the symmetric cipher. Because of the symmetric key sharing, the used symmetric key is different for each file transmission. The actual data set being sent then is encrypted using the session key and sent to the partner. It is possible to create and use private and public keys with a size between 768 and 2048 bit. In case of encryption of a data set rvs® provides a document's digital signature, which protects the transmitted data set against changes and check the ownership of the transmitted data. The implementation of this feature uses a hash function. The following defaults will be used by rvs® for the encryption procedures:

- for encryption: DES3 with RSA
- for hash value determination: SHA1

External Security Feature is based on an external program library (run time version) and this programs are linked with the new task 'Service Provider'. Therefore there is one additional installation steps only to the well known rvsMVS installation to use this security feature:

- creation of the Security Key Data Set.

Please refer to chapter 5.1. and 5.9. / 5.10.

Additional the parameter **SECURITY=EXT** has to inserted into the STATION entry to inform about the partner capability.

Please refer to chapter 6.1. and 6.2.

9.4.1. 7 Steps to Prepare the Use of External Security Feature

The following chapter gives a short description of **'How to prepare ....'**

Step	What to do...	Help is where...
	Install rvsMVS	chapter 5.1
1	**Get a valid license with security code 'Y'**	gedas
2	**Create the Security Key Data Set**	chapter 5.9
3	**Create your own Public and Private Security Key**	chapter Appendix I
4	**Insert these keys into the Security Key Data Set**	chapter Appendix I
5	**Get the public security key of your partner**	
6	**Insert this key into your Security Key Data Set**	chapter Appendix I
7	**Add the parameter SECURITY=EXT to partner's station entry**	chapter 6.2.0
	Now the rvsMVS user is available to send data:	
user	Create a send request	see USER Manual
	All remaining steps will be done by rvsMVS automatically....	

9.5. User Level Security (ULS) - step-by-step instructions

In this chapter you will find the step-by-step description of the User Level Security (ULS) configuration with examples.

9.5.1. Introduction

Basically User Level Security enables a user to user communication. It is provided by two features:

1) A user is represented by its own RACF User ID and Odette ID.
2) Permissions are applied, which files are permitted to be transferred from which sources to which destinations - Transfer Permission

User related RACF ID and Odette IDs

A rvsMVS user represents a user account on the operating system (RACF ID). Now for every rvsMVS user can be defined an own Odette ID.
When the user sends a file, the source Odette ID - that is usually the Odette ID of the local station - is replaced by the user's Odette ID.
Partner stations have to configurate the user's Odette ID as if it would belong to a Odette station that is reached by routing.
When rvsMVS receives a file for a user's Odette ID, rvsMVS delivers the file locally and gives it user's access permissions.

Transfer Permission

Transfer permissions are applied on a per-neighbour-station base. For each neighbour station the appliance of the permissions may be switched on by the station configuration (parameter ULS=YES).
When transfer permissions are switched on (ULS=YES) for a given neighbour station then all transmissions in receive and send direction are restricted. Only these transmissions are allowed that are defined in the USER member, SN#sid member (for send) and RN#sid member (for receive) in permission dataset (see chapter 6.12 for more information about transfer transmissions).

9.5.2. 10 Steps to Prepare the Use of ULS (User Level Security) Feature

The following chapter gives a short description of **'How to prepare ....'**

Step	What to do...	Help is where...
	Install rvsMVS	chapter 5.1
1	**Get a valid license with security code 'C', 'D' and 'E'**	gedas
2	Exchange information with your partners about permitted users and permitted dataset names	users of rvs
3	Set for each neighbour station to which ULS shall be applied the parameter ULS=YES	chapter 6.2.0
4	**define local virtual stations** for all **local users,** who are able to use ULS	chapter 6.2.10
5	Define all local virtual stations which represent the users at the neighbour station, as stations that are reachable by routing via neighbour station	chapter 6.2.8

6	Create new PDS for user and permission information	chapter 9.5.7
7	Define „the user to virtual station“ mapping in the member USER	chapter 6.12.1
8	Define permissions for each neighbour for both directions send/receive in the member SN#... and RN#…	chapter 6.12.2
9	Add new DD statement for PTABLES in Monitor Jobstart JCL-Program	chapter 6.9.1
10	Add new DD statement for PTABLES in DF080A JCL-Programm	chapter 9.5.9
	Now the rvsMVS user is available to send data:	
user	Create a send request	see USER Manual
	All remaining steps will be done by rvsMVS automatically....	

9.5.3. Install and configure rvsMVS as „normal“ rvsMVS

Install rvsMVS which is described in the Installation Manual.

9.5.4. Add new licence key with Components ‚C‘ ‚D‘ ‚E‘

You need a license key with the new components ‚C‘ ‚D‘ ‚E‘.

9.5.5. Exchange information with your partner stations

Exchange information with your partners about permitted users and permitted dataset names. Users are represented by ODETTE-Ids and datasets can have asterisks at the end (as wildcard).

9.5.6. Change station table

Neighbour station

If ULS is used, you have to add the parameter **ULS=YES**
to the neighbour station. From now the ULS check is used for this station.

Local virtual station

Define all needed local virtual stations (see the following example).

Example:

```
SID=VC1,
ADDR='LOcAL VIRTUAL STATION for user FIX0GTE'
          ODETID='O0013000001VW    VGTE'
          TYPE=VIRT
          ACME=T
          RECVPW=AAA,
          SENDPW=AAA,
```

Note:
We need the parameters ACME, RECVPW and SENDPW for the purpose of compatibility. Use

```
          ACME=T
          RECVPW=AAA,
```

```
          SENDPW=AAA
```

as standard values.
How to define for a virtual station needed users, please see the chapter 6.12.1.

Remote virtual station

Add for each user of the remote station his own station in your station table. (It looks like a routed station (VIA), but your neighbour station can identify this ODETTE-Id.)

Example:

```
SID=VTE,
ADDR='VIRTUELLE STATION BEI TEP'
         ODETID='O0013003210GEDAS     VTEP'
         VIA=TEP
```

9.5.7. Create new PDS for user and permission information

Create a PDS with:

- Member **USER –** it contains “user to station” mapping.
- Members **SN#...** - it contains permission entries (direction send) for one neighbour.
- Members **RN#...** - it contains permission entries (direction receive) for one neighbour.

Example PDS:

FIX0GTE.RVSULS.PARTNERS

Members:

SN#TEP – permission to neighbour TEP (direction send)
RN#TEP – permission from neighbour TEP (direction receive)
SN#TA1 – permission to neighbour TA1 (direction send)
RN#TA1 – permission from neighbour TA1 (direction receive)
USER - “user – local virtual station” mapping.

SN#TEP:

```
*
 VDSN=FIX0GTE.TESTFILE.*,OSID=VC1,DSID=VTE
*VDSN=*                  OSID=VC4,DSID=VA4
*VDSN=FIX0GG2.OOOO1.TESTV*, OSID=VC4,DSID=VA4
*
*VDSN=FIX0GG2.OOOO1.TESTX72,OSID=VC4,DSID=VA4
```

USER:

```
** COMMENT **
** COMMENT **
USER=FIX0GTE,SID=VC1
** COMMENT **
USER=FIX0GGU,SID=VC3
** COMMENT **
*USER=FIX0GG2,SID=VC2
```

```
** COMMENT **
USER=FIX0GTP,SID=VC5
```

In the member **SN#TEP** is configured:

- The own local virtual station **VC1** is allowed to send files beginning with **FIX0GTE.TESTFILE** to the remote virtual station **VTE**.
- The local virtual station **VC4** is allowed to send all files (all dataset names are allowed) to the remote virtual station **VA4**.
- The local virtual station **VC4** is allowed to send files beginning with **FIX0GG2.00001.TESTV** and beginning with **FIX0GG2.00001.TESTX72** to the remote virtual station **VA4**.

In the member **USER** is defined “a user - virtual station” mapping (relation). The user **FIX0GTE** belongs to the local virtual station **VC1**, the user **FIX0GGU** to the local virtual station **VC3**, the user **FIX0GG2** to the local virtual station **VC2** and the user **FIX0GTP** belongs to the local virtual station **VC5**.

All defined users are the owners of the virtual station.

9.5.8. Add new DDName in Monitor Jobstart JCL-Program

Add information about the PDS, which includes user and permission information.

Example:

```
//PTABLES DD    DSN=FIX0GTE.RVSULS.PTABLES,DISP=SHR
```

9.5.9. Add new DDName in DF080A JCL-Programm

Add information about the PDS, which includes user and permission information.

Example:

```
//PTABLES DD    DSN=FIX0GTE.RVSULS.PTABLES,DISP=SHR
```

9.5.10. New commands on remote operator console

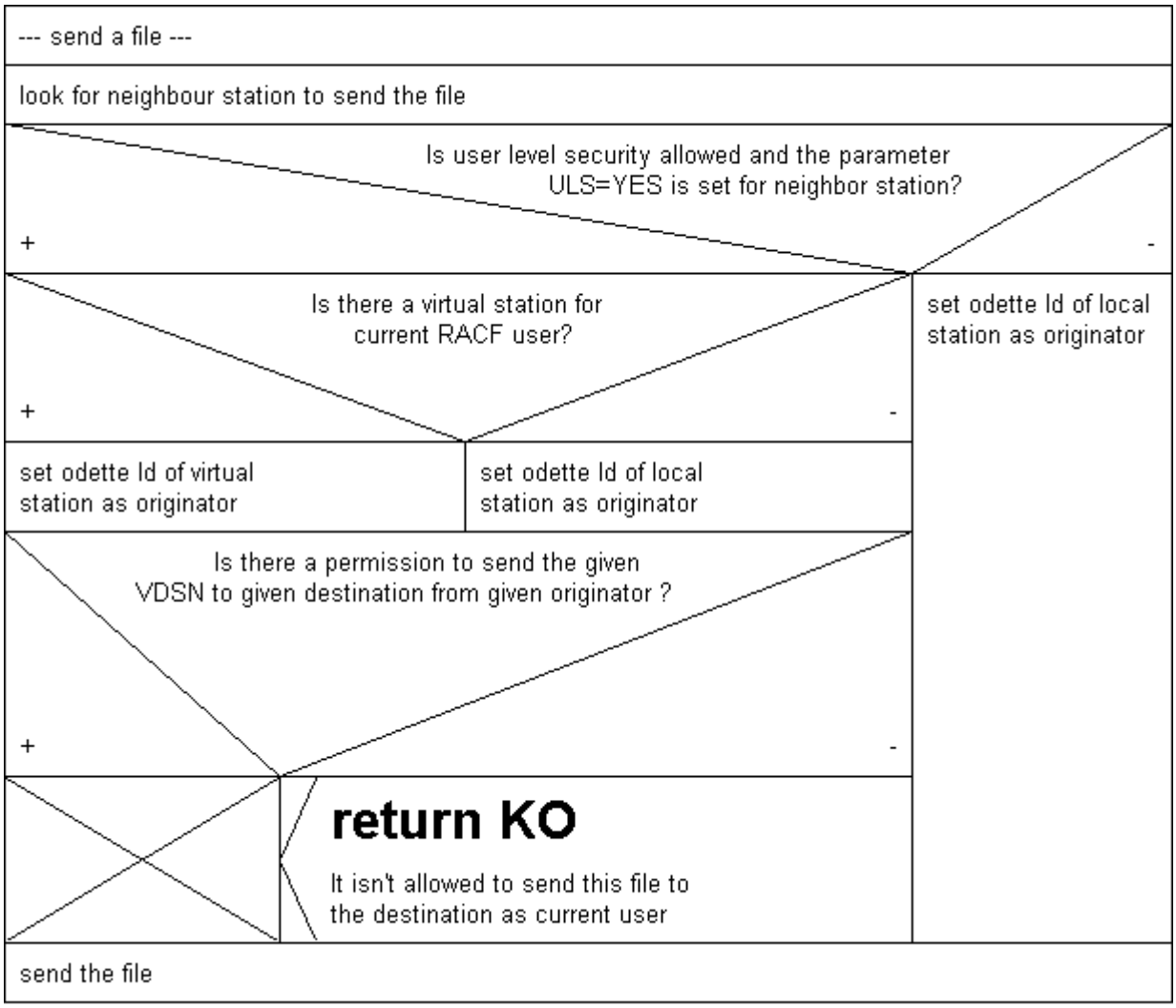
X SID,ULST - display permission table from/to SID
X SID,ULSU - display user table

9.5.11. Send und Receive Scenario

The following structures illustrate the send and receive scenarios with ULS.

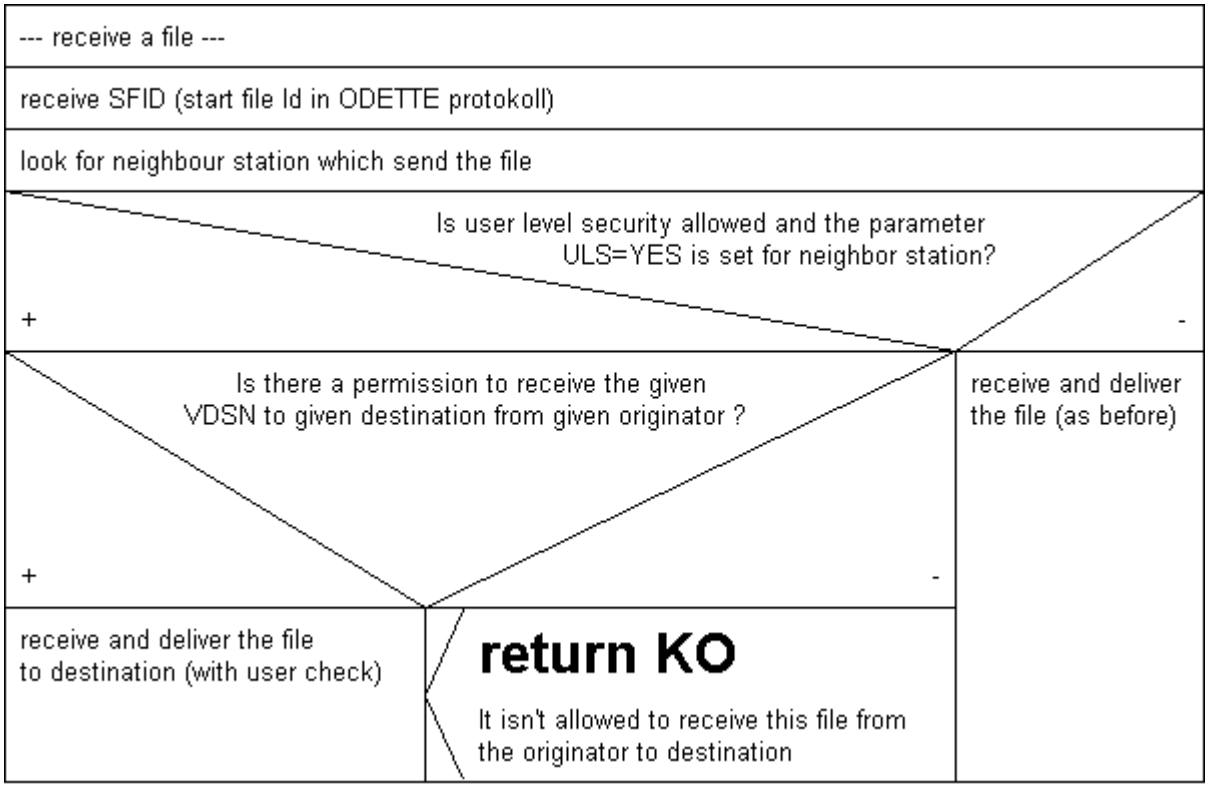
Send

This check is implemented in the programs DF080A and DF052A.


--- send a file ---
look for neighbour station to send the file
Is user level security allowed and the parameter ULS=YES is set for neighbor station?
+
-
Is there a virtual station for current RACF user?
+
-
set odette Id of local station as originator
set odette Id of virtual station as originator
set odette Id of local station as originator
Is there a permission to send the given VDSN to given destination from given originator ?
+
-
return KO
It isn't allowed to send this file to the destination as current user
send the file

Receive

This check is implemented in the program DF119A (SFID check).


--- receive a file ---
receive SFID (start file Id in ODETTE protokoll)
look for neighbour station which send the file
Is user level security allowed and the parameter ULS=YES is set for neighbor station?
+
-
Is there a permission to receive the given VDSN to given destination from given originator ?
receive and deliver the file (as before)
+
-
receive and deliver the file to destination (with user check)
return KO
It isn't allowed to receive this file from the originator to destination

9.5.12. Error Codes

The following error codes concerning the new feature ULS and the program DF080A are possible:

Error code	Description
0	Request accepted
24	Check of permission rights failed – member missing
28	Matching entry in permission member for given dataset not found
32	Matching entry in member for user (RACF) not found
40	Used OSID with ULS=YES is invalid

:

9.5.13. ULS Configuration Example

9.5.13.1. Description of Example

In the next chapters is described a configuration example of two rvsMVS environments.

The rvsMVS_1 environment:

Station RVT (own station)
Station TA2 (normal partners station)
Station TB2 (next normal partners station)
.
.
Station TAV (local virtuale station for RVT)
Station TAX (next local virtuale station for RVT)
Station TAY (next local virtuale station for RVT)
Station TAZ (next local virtuale station for RVT)

Station VA1 (remote virtuale station for TA2)
Station VA2 (next remote virtuale station for TA2)
Station VA3 (next remote virtuale station for TA2)
Station VA4 (next remote virtuale station for TA2)
Station VA5 (next remote virtuale station for TA2)

The rvsMVS_2 environment:

Station TA2 (own station)
Station RVT (normal partners station)
Station RVX (next normal partners station)
.
.
Station TAV (remote virtuale station for RVT)
Station TAX (next remote virtuale station for RVT)
Station TAY (next remote virtuale station for RVT)
Station TAZ (next remote virtuale station for RVT)

Station VA1 (local virtuale station for TA2)
Station VA2 (next local virtuale station for TA2)
Station VA3 (next local virtuale station for TA2)
Station VA4 (next local virtuale station for TA2)
Station VA5 (next local virtuale station for TA2)

9.5.13.2. Konfiguration for RVS_1

```
Insert new rvsMVS licence key with C,D und E components in TABLES member

0853/139 DF3000I RVSMVS STARTED -- DAY 04.139 (18.05) TIME  8.53 / DUR.:0000000MIN
0853/139 LL3041I                   CURRENT RELEASE: 2.5, MODIFICATION LEVEL 14
0853/139 LL3044I EXPIRATION DATE OF CURRENT SOFTWARE: 04.200 (18.07)
0853/139 LL3046I                   COMPONENTS: BSC SNA X25 LU6.2 FTP TCP
0853/139 LL3046I                   COMPONENTS: COMP SECR VST TFR UST
0853/139 LL3050I ENVIRONMENT: MVS-REL SP7.0.4      FMID: HBB7707  CPU-MODEL 2084
1012/139 LL1900I *** PROCESSING OF START PARAMETERS STARTED ***
```

RVST.TABLES(CNTL)

```
*
*      Control Parameter (MAIN STATION RVT)
*
STATION=(RVT)
TIME=05
ODID='O0013000003xx     RVT'
FIRSTLVL=RVST
JSSNAME=OPC
UNIT=SYSDA
        . . .
```

RVST.TABLES(STATIONS)

```
*
*     Partner station
*
SID=TA2, ADDR='RVS/MVS TSOA'
         ACME=T
         LSIZE=32767
         ULS=YES
         TCPIPADR=(299.446.086.246,XXNET)
         TCPPORT=3308
         TCPSESS=20
         ODETID='O0013000003xx     TA2'
         RECVPW=***
         SENDPW=***
         SECURITY=EXT,COMPRESS=EXT
         TYPE=MVS
SID=TA3, ADDR='RVS/MVS TSOA'
         ACME=T
         LSIZE=32767
         ULS=YES
         TCPIPADR=(499.556.086.246,XXNET)
         TCPPORT=3308
         TCPSESS=20
         ODETID='O0013000003xx     TA3'
         RECVPW=***
         SENDPW=***
         SECURITY=EXT,COMPRESS=EXT
         TYPE=MVS
*
*      Virtual station for RVT
*
SID=TAV, ADDR='RVS/MVS TSOA'
         ACME=T
         ODETID='O0013000003xx     TAV'
         RECVPW=***
         SENDPW=***
         TYPE=VIRT
SID=TAX, ADDR='RVS/MVS TSOA'
         ACME=T
         ODETID='O0013000003xx     TAX'
         RECVPW=***
         SENDPW=***
         TYPE=VIRT
SID=TAY, ADDR='RVS/MVS TSOA'
         ACME=T
         ODETID='O0013000003xx     TAY'
         RECVPW=***
         SENDPW=***
         TYPE=VIRT
SID=TAZ, ADDR='RVS/MVS TSOA'
         ACME=T
         ODETID='O0013000003xx     TAZ'
         RECVPW=***
         SENDPW=***
         TYPE=VIRT
*
*    Virtual station for partner TA2
*
SID=VA1, ADDR='RVS/MVS TSOL'
```

```
          ODETID='O0013000003xx     VA1'
          SECURITY=EXT,COMPRESS=EXT
          VIA=TA2
SID=VA2, ADDR='RVS/MVS TSOL'
          ODETID='O0013000003xx     VA2'
          SECURITY=EXT,COMPRESS=EXT
          VIA=TA2
SID=VA3, ADDR='RVS/MVS TSOL'
          ODETID='O0013000003xx     VA3'
          SECURITY=EXT,COMPRESS=EXT
          VIA=TA2
SID=VA4, ADDR='RVS/MVS TSOL'
          ODETID='O0013000003xx     VA4'
          SECURITY=EXT,COMPRESS=EXT
          VIA=TA2
SID=VA5, ADDR='RVS/MVS TSOL'
          ODETID='O0013000003xx     VA5'
          SECURITY=EXT,COMPRESS=EXT
          VIA=TA2
```

RVST.TABLES(JRVSVIRT)

```
//#######C JOB . . .
 //*********************************************************************
//*                                                                    *
//*********************************************************************
//RVSTTC1  EXEC  PGM=DF130B00,
// DYNAMNBR=14,DPRTY=(12,11),REGION=4096K
//STEPLIB  DD   DSN=RVST.LOAD,DISP=SHR
//SYSPRINT DD   DUMMY
//ACT      DD   DUMMY
//MSGID    DD   DSN=RVST.TABLES(MSGID),DISP=SHR
//MSGID01  DD   DSN=RVST.TABLES(MSGID01),DISP=SHR
//KD       DD   DSN=RVST.KD,DISP=SHR
//RVSLOG   DD   DSN=RVST.LOG,DISP=SHR
//KEYDATA  DD   DSN=RVST.KEYS,DISP=SHR
//SYSWTO   DD   SYSOUT=*
//SYSWTO01 DD   SYSOUT=*
//Y        DD   SYSOUT=*
//INTRDRMP DD   SYSOUT=(A,INTRDR)
//CNTL     DD   DSN=RVST.TABLES(CNTL),DISP=SHR
//START    DD   DSN=RVST.TABLES(START),DISP=SHR
//STATIONS DD   DSN=RVST.TABLES(STATIONS),DISP=SHR
//PROGPROF DD   DSN=RVST.TABLES(PROGPROF),DISP=SHR
//SESSIONS DD   DSN=RVST.TABLES(SESSIONS),DISP=SHR
//JOBCARD  DD   DSN=RVST.TABLES(JOBCARD),DISP=SHR
//JOBCARDS DD   DSN=RVST.TABLES(JOBCARDS),DISP=SHR
//JOBCARDF DD   DSN=RVST.TABLES(JOBCARDF),DISP=SHR
//STAPEJC  DD   DSN=RVST.TABLES(STAPEJC),DISP=SHR
//RTAPEJC  DD   DSN=RVST.TABLES(RTAPEJC),DISP=SHR
//SYSOUTJC DD   DSN=RVST.TABLES(SYSOUTJC),DISP=SHR
//FTPRVSJC DD   DSN=RVST.TABLES(FTPRVSTJC),DISP=SHR
//KEY      DD   DSN=RVST.TABLES(TKEYSECR),DISP=SHR
//PFKEYS   DD   DSN=RVST.TABLES(PFKEYS#),DISP=SHR
//JFPJCL   DD   DSN=RVST.TABLES(JFPJCL),DISP=SHR
//CNTLMSG  DD   DSN=RVST.TABLES(CNTLMSG),DISP=SHR
//TRNTABLE DD   DSN=RVST.TABLES(TRNTABLE),DISP=SHR
//PTABLES  DD   DSN=RVST.PTABLES,DISP=SHR
```

RVST.PTABLES(RN#TA2)

```
*
  VDSN=RVS.XUVX*,          OSID=VA1,          DSID=TAV
  VDSN=RVS.XUXX*,          OSID=VA2,          DSID=TAX
  VDSN=RVS.XUYX*,          OSID=VA3,          DSID=TAY
  VDSN=RVS.XUZX*,          OSID=VA4,          DSID=TAZ
  VDSN=RVS.XUZR*,          OSID=VA5,          DSID=TAZ
*
```

RVST.PTABLES(SN#TA2)

```
*
```

```
  VDSN=RVST.XUX*,OSID=TAV,        DSID=VA5
  VDSN=RVS.XUX*, OSID=TAX,        DSID=VA1
  VDSN=RVS.XUY*, OSID=TAY,        DSID=VA2
  VDSN=RVS.XUZ*, OSID=TAZ,        DSID=VA3
  VDSN=RVS.XUV*, OSID=TAV,        DSID=VA4
  VDSN=RVS.XUV*, OSID=TAV,        DSID=VA5
*
```

RVST.PTABLES(USERS)

```
** COMMENT **
USER=RVS1,SID=TAV
USER=RVS2,SID=TAX
USER=RVS3,SID=TAY
USER=RVS4,SID=TAZ
** COMMENT **
```

Send requests (examples)

```
  ORT=VA4,DSN=RVS.XUV.SEND.T058     FOR USER RVS1
    DSNOLD=RVS1.OOOO2
    DISP=DELETE

  ORT=VA5,DSN=RVS.XUV.SEND.T058     FOR USER RVS1
    DSNOLD=RVS1.OOOO2
    DISP=DELETE

  ORT=VA5,DSN=RVST.XUX.SEND.T059    FOR USER RVS1
    DSNOLD=RVS1.OOOO3
    DISP=DELETE
    JOB=RVS.X26.TABLES(TENNIS##)
    COMPRESS=NO


  ORT=VA1,DSN=RVS.XUX.SEND.T058     FOR USER RVS2
    DSNOLD=RVS2.OOOO2
    DISP=DELETE

  ORT=VA2,DSN=RVS.XUY.SEND.T058     FOR USER RVS3
    DSNOLD=RVS3.OOOO2
    DISP=DELETE

  ORT=VA3,DSN=RVS.XUZ.SEND.T058     FOR USER RVS4
    DSNOLD=RVS4.OOOO2
    DISP=DELETE



  ORT=VA1,DSN=RVS.XUV.SEND.T058     FOR USER RVS1      NO PERMISSION SID
    DSNOLD=RVS1.OOOO2
    DISP=DELETE

  ORT=VA4,DSN=RVS.XUX.SEND.T058     FOR USER RVS1     NO PERMISSION DSN NAME
    DSNOLD=RVS1.OOOO2
    DISP=DELETE
```

9.5.13.3. Konfiguration for RVS 2

Insert new rvsMVS licence key with C,D und E components in TABLES member

```
0853/139 DF3000I RVSMVS STARTED -- DAY 04.139 (18.05) TIME  8.53 / DUR.:0000000MIN
0853/139 LL3041I                   CURRENT RELEASE: 2.5, MODIFICATION LEVEL 14
```

```
0853/139 LL3044I EXPIRATION DATE OF CURRENT SOFTWARE: 04.200 (18.07)
0853/139 LL3046I                   COMPONENTS: BSC SNA X25 LU6.2 FTP TCP
0853/139 LL3046I                   COMPONENTS: COMP SECR VST TFR UST
0853/139 LL3050I ENVIRONMENT: MVS-REL SP7.0.4      FMID: HBB7707  CPU-MODEL 2084
1012/139 LL1900I *** PROCESSING OF START PARAMETERS STARTED ***
```

RVS.TABLES(CNTL)

```
*
*      Control Parameter (MAIN STATION TA2)
*
000001 STATION=TA2
000002 RMOPAPPL=AVARVSG7,DQPERM=NO,STORAC=0,TRACE=RVS
000003 DDEVTY=DISK,LOG=YES,MSGID=AA,DSPTI=60,JOBINIT=SUBMIT,JFP=YES
000004 TIME=2,ROUT=12,SCC=(878),UNIT=SYSDA
       . . .
```

RVS.TABLES(STATIONS)

```
*
*     Partner station
*
SID=RVT, ADDR='TCPIP - TEST SYSTEM VERBUND B'
         ISTATUS=ACTIVE,
         ACME=T,
         TYPE=MVS
         ULS=YES
         LSIZE=32000,
         TCPIPADR=(599.123.086.27,XXNET)
         TCPPORT=3306
         TCPSESS=10
         ODETID='O0013000003xx     RVT'
         RECVPW=BBB,
         SENDPW=BBB,
         CREDIT=100,
         SECURITY=EXT,COMPRESS=GZIP
SID=RVX, ADDR='TCPIP - TEST SYSTEM VERBUND B'
         ISTATUS=ACTIVE,
         ACME=T,
         TYPE=MVS
         ULS=YES
         LSIZE=32000,
         TCPIPADR=(699.123.086.27,XXNET)
         TCPPORT=3306
         TCPSESS=10
         ODETID='O0013000003xx     RVX'
         RECVPW=BBB,
         SENDPW=BBB,
         CREDIT=100,
         SECURITY=EXT,COMPRESS=GZIP
*
*   Virtual station for TA2
*
SID=VA1, ADDR='TCPIP - STATION VERBUND B'
         ACME=T,
         ODETID='O0013000003xx     VA1'
         RECVPW=AAA,
         SENDPW=AAA,
         SECURITY=EXT,
         COMPRESS=GZIP
         TYPE=VIRT
SID=VA2, ADDR='TCPIP - STATION VERBUND B'
         ACME=T,
         ODETID='O0013000003xx     VA2'
         RECVPW=AAA,
         SENDPW=AAA,
         SECURITY=EXT,
         COMPRESS=GZIP
         TYPE=VIRT
SID=VA3, ADDR='TCPIP - STATION VERBUND B'
         ACME=T,
         ODETID='O0013000003xx     VA3'
         RECVPW=AAA,
         SENDPW=AAA,
```

```
          SECURITY=EXT,
          COMPRESS=GZIP
          TYPE=VIRT
SID=VA4, ADDR='TCPIP - STATION VERBUND B'
          ACME=T,
          ODETID='O0013000003xx     VA4'
          RECVPW=AAA,
          SENDPW=AAA,
          SECURITY=EXT,
          COMPRESS=GZIP
          TYPE=VIRT
SID=VA5, ADDR='TCPIP - STATION VERBUND B'
          ACME=T,
          ODETID='O0013000003xx     VA5'
          RECVPW=AAA,
          SENDPW=AAA,
          SECURITY=EXT,
          COMPRESS=GZIP
          TYPE=VIRT
*
*    Virtual station for partner RVT
*
SID=TAV, ADDR='GEDAS TEST',
          VIA=RVT,
          ISTATUS=ACTIVE,
          ODETID='O0013000003xx     TAV'
          SECURITY=EXT,COMPRESS=GZIP
SID=TAX, ADDR='GEDAS TEST',
          VIA=RVT,
          ISTATUS=ACTIVE,
          ODETID='O0013000003xx     TAX'
          SECURITY=EXT,COMPRESS=GZIP
SID=TAY, ADDR='GEDAS TEST',
          VIA=RVT,
          ISTATUS=ACTIVE,
          ODETID='O0013000003xx     TAY'
          SECURITY=EXT,COMPRESS=GZIP
SID=TAZ, ADDR='GEDAS TEST',
          VIA=RVT,
          ISTATUS=ACTIVE,
          ODETID='O0013000003xx     TAZ'
          SECURITY=EXT,COMPRESS=GZIP
```

RVS.TABLES(JRVSVIRT)

```
//#######C JOB . . .
 //*********************************************************************
//*                                                                    *
//*********************************************************************
//RVSTC1  EXEC  PGM=DF130B00,
// DYNAMNBR=14,DPRTY=(12,11),REGION=4096K
//STEPLIB  DD   DSN=RVS.LOAD,DISP=SHR
//SYSPRINT DD   DUMMY
//ACT      DD   DUMMY
//MSGID    DD   DSN=RVS.TABLES(MSGID),DISP=SHR
//MSGID01  DD   DSN=RVS.TABLES(MSGID01),DISP=SHR
//KD       DD   DSN=RVS.KD,DISP=SHR
//RVSLOG   DD   DSN=RVS.LOG,DISP=SHR
//KEYDATA  DD   DSN=RVS.KEYS,DISP=SHR
//SYSWTO   DD   SYSOUT=*
//SYSWTO01 DD   SYSOUT=*
//Y        DD   SYSOUT=*
//INTRDRMP DD   SYSOUT=(A,INTRDR)
//CNTL     DD   DSN=RVS.TABLES(CNTL),DISP=SHR
//START    DD   DSN=RVS.TABLES(START),DISP=SHR
//STATIONS DD   DSN=RVS.TABLES(STATIONS),DISP=SHR
//PROGPROF DD   DSN=RVS.TABLES(PROGPROF),DISP=SHR
//SESSIONS DD   DSN=RVS.TABLES(SESSIONS),DISP=SHR
//JOBCARD  DD   DSN=RVS.TABLES(JOBCARD),DISP=SHR
//JOBCARDS DD   DSN=RVS.TABLES(JOBCARDS),DISP=SHR
//JOBCARDF DD   DSN=RVS.TABLES(JOBCARDF),DISP=SHR
//STAPEJC  DD   DSN=RVS.TABLES(STAPEJC),DISP=SHR
//RTAPEJC  DD   DSN=RVS.TABLES(RTAPEJC),DISP=SHR
//SYSOUTJC DD   DSN=RVS.TABLES(SYSOUTJC),DISP=SHR
//FTPRVSJC DD   DSN=RVS.TABLES(FTPRVSJC),DISP=SHR
//KEY      DD   DSN=RVS.TABLES(TKEYSECR),DISP=SHR
```

```
//PFKEYS   DD   DSN=RVS.TABLES(PFKEYS#),DISP=SHR
//JFPJCL   DD   DSN=RVS.TABLES(JFPJCL),DISP=SHR
//CNTLMSG  DD   DSN=RVS.TABLES(CNTLMSG),DISP=SHR
//TRNTABLE DD   DSN=RVS.TABLES(TRNTABLE),DISP=SHR
//PTABLES  DD   DSN=RVS.PTABLES,DISP=SHR
```

RVS.PTABLES(RN#TC2)

```
*
 VDSN=RVS.OOOO1.TESTA*, DSID=VA1,OSID=TAV
 VDSN=RVS.OOOO1.TESTA*, DSID=VA1,OSID=TAX
 VDSN=RVS.OOOO1.TESTB*, DSID=VA2,OSID=TAY
 VDSN=RVS.OOOO1.TESTB*, DSID=VA2,OSID=TAZ
 VDSN=RVS.OOOO1.TESTC*, DSID=VA3,OSID=TAV
 VDSN=RVS.OOOO1.TESTC*, DSID=VA3,OSID=TAY
 VDSN=RVS.OOOO1.TESTD*, DSID=VA4,OSID=TAX
 VDSN=RVS.OOOO1.TESTD*, DSID=VA4,OSID=TAZ
 VDSN=RVS.OOOO1.TESTD*, DSID=VA4,OSID=TAV
 VDSN=RVS.OOOO1.TESTE*, DSID=VA5,OSID=TAX
 VDSN=RVS.OOOO1.TESTE*, DSID=VA5,OSID=TAY
 VDSN=RVS.OOOO1.TESTE*, DSID=VA5,OSID=TAZ
*
```

RVS.PTABLES(SN#TC2)

```
*
 VDSN=RVS.OOOO1.TESTA*, OSID=VA1,DSID=TAV
 VDSN=RVS.OOOO1.TESTA*, OSID=VA1,DSID=TAX
 VDSN=RVS.OOOO1.TESTB*, OSID=VA2,DSID=TAY
 VDSN=RVS.OOOO1.TESTB*, OSID=VA2,DSID=TAZ
 VDSN=RVS.OOOO1.TESTC*, OSID=VA3,DSID=TAV
 VDSN=RVS.OOOO1.TESTC*, OSID=VA3,DSID=TAY
 VDSN=RVS.OOOO1.TESTD*, OSID=VA4,DSID=TAX
 VDSN=RVS.OOOO1.TESTD*, OSID=VA4,DSID=TAZ
 VDSN=RVS.OOOO1.TESTD*, OSID=VA4,DSID=TAV
 VDSN=RVS.OOOO1.TESTE*, OSID=VA5,DSID=TAX
 VDSN=RVS.OOOO1.TESTE*, OSID=VA5,DSID=TAY
 VDSN=RVS.OOOO1.TESTE*, OSID=VA5,DSID=TAZ
*
```

RVS.PTABLES(USERS)

```
** COMMENT **
** COMMENT **
USER=RVSA,SID=VA1
USER=RVSB,SID=VA2
USER=RVSC,SID=VA3
USER=RVSD,SID=VA4
USER=RVSE,SID=VA5
** COMMENT **
```

Send requests (examples)

```
ORT=TAV,DSN=RVS.OOOO1.TESTA.T1801     for user RVSA
    DISP=KEEP
    DSNOLD=RVSA.OOOO1

ORT=TAX,DSN=RVS.OOOO1.TESTA.T1802     for user RVSA
    DISP=KEEP
    DSNOLD=RVSA.OOOO1

ORT=TAY,DSN=RVS.OOOO1.TESTB.T1801     for user RVSB
    DISP=KEEP
    DSNOLD=RVSB.OOOO1

ORT=TAZ,DSN=RVS.OOOO1.TESTB.T1802     for user RVSB
```

```
    DISP=KEEP
    DSNOLD=RVSB.OOOO1


ORT=TAV,DSN=RVS.OOOO1.TESTC.T1801     for user RVSC
    DISP=KEEP
    DSNOLD=RVSC.OOOO1

ORT=TAX,DSN=RVS.OOOO1.TESTC.T1802     for user RVSC
    DISP=KEEP
    DSNOLD=RVSC.OOOO1


ORT=TAX,DSN=RVS.OOOO1.TESTD.T1801     for user RVSD
    DISP=KEEP
    DSNOLD=RVSD.OOOO1

ORT=TAZ,DSN=RVS.OOOO1.TESTD.T1802     for user RVSD
    DISP=KEEP
    DSNOLD=RVSD.OOOO1


ORT=TAZ,DSN=RVS.OOOO1.TESTE.T1801     for user RVSE
    DISP=KEEP
    DSNOLD=RVSE.OOOO1

ORT=TAX,DSN=RVS.OOOO1.TESTE.T1802     for user RVSE
    DISP=KEEP
    DSNOLD=RVSE.OOOO1


ORT=TAX,DSN=RVS.OOOO1.TESTx.T1801     for user RVSD     NO PERMISSION NAME
    DISP=KEEP
    DSNOLD=RVSD.OOOO1


ORT=TAX,DSN=RVS.OOOO1.TESTY.T1802     for user RVSE     NO PERMISSION NAME
    DISP=KEEP
    DSNOLD=RVSE.OOOO1


ORT=TAV,DSN=RVS.OOOO1.TESTE.T1802     for user RVSE     NO PERMISSION ORT
    DISP=KEEP
    DSNOLD=RVSE.OOOO1
```

9.6. User Separation (USP) - step-by-step instructions

9.6.1. Introduction

rvsMVS receive files

First the user, who wants to send a file with rvs, has to authenticate against the operating system. When this user tries to send a file, his user name and the file's name are transmitted by rvs before the actual file transfer is starting. When the receiving rvsMVS gets this information, it searches the mapping table for a corresponding entry. If an entry is found, rvsMVS retrieves the according RACF-user. If none was found in the mapping table, rvsMVS assumes that the user is directly known in RACF. Next rvsMVS checks with RACF whether the RACF-user has the right permissions to record the given file. If the permissions inside RACF allow recording the file, rvsMVS signals that the file transmission can start. Otherwise it denies the file transmission to the sending station. In both cases an appropriate entry is written to a user permission log.
The mapping table of rvsMVS is also useful for mapping user names with more than eight characters to RACF-user names (generally up to seven characters).

In case of starting a post transmission processing rvsMVS assures that the process is started under the name of the RACF-user who was responsible for sending the file. This action is recorded in the user permission log, too. The result of submitting the job is written to the log.

rvsMVS send files

Today rvsMVS already checks the user's read permission to the file the user wants to send. In general the user has the possibility to create a script, which can be started when a send job fails. This script name has to be given as parameter to the send job. When this script will be started, it will be started under the permissions of the RACF-user who originally started the send job.
For each sending operation and for every script start an entry is written to the user permission log.
Appendix

9.6.2. Installation

There are no additional installation steps necessary since user separation is a standard feature of rvsMVS.

9.6.3. Configuration

You have to modify the rvsMVS CNTL-Member and the station table to activate user separation.

RVS-Start parameter (CNTL-Member)

USERSEP = {YES | NO}

Enables user separation for the own rvsMVS station.

RVS-Stationtable (STATIONS-Member)

USERSEP = {YES | NO}

Enables the user separation for the remote station.

Create Data Sets
Create datasets:

Description	Dataset name	Job in tables
rvs User Mapping Dataset (USP)	RVS…USERDATA	DEFUSER, INITUSER
rvs User Mapping Log (USP)	RVS…USERLOG	DEFLOG#L
rvs User Log Dataset (USP)	RVS…LOGDATA	DEFLOGL, INITLOGL
rvs User Log Log (USP)	RVS…LOGLOG	DEFLOG#L

Remark:
If you use SMS to allocate datasets, use the jobs DEFLLSMS and DEFUSSMS to create the VSAM datasets.

Modify the DF080A00 Job

Add the following DD- Statements to the DF080A00 Job.

```
//USERDATA    DD      DSN=RVS...USERDATA,DISP=SHR
//USERLOG     DD      DSN=RVS...USERLOG,DISP=SHR
//LOGDATA     DD      DSN=RVS...LOGDATA,DISP=SHR
//LOGLOG      DD      DSN=RVS...LOGLOG,DISP=SHR
```

9.6.4. Work with USP Panels

Start Panel DF000U01

```
-- DF000U01 -------------- VW RECHNER VERBUND SYSTEM -----------------------

                                    ***     *** **    **   ******
                                    ****   **** **    **  **    **
** ** **       **  ******           ** ** ** ** **    **  ***
****   **     **  **                **  ***  ** **    **   ******
***      **  **    ******           **   *   **  **  **       ****
**        ****          **          **       **   ****    **    **
**         **      ******           **       **    **      ******

SELECT OPTION ===>

1 - SEND A DATASET
2 - DISPLAY TRANSMISSIONS
3 - DELETE SEND-REQUESTS
4 - CREATE RESIDENT RECEIVE ENTRY
5 - DISPLAY / DELETE RESIDENT ENTRY
6 - DISPLAY TRANSMISSIONS (EXTENDED)
X - CREATE USER SEPARATION ENTRY
Y - DISPLAY / DELETE USER SEPARATION ENTRY
Z - DISPLAY USER SEPARATION LOG ENTRY(S)

I - RVS INFORMATIONS
```

The start panel DF000U01 was expanded with the menu items 6, X, Y and Z.

Create a user mapping entry

The menu item X shows a panel which allows the user to create new user mapping entries. A user mapping entry is used by the user separation to map a given remote user id to a local RACF user id.

```
********************************** DFX00P00  ******************************
*       R V S   -   C R E A T E   U S E R   M A P P I N G   E N T R Y     *
*************************************************************************
COMMAND ===>

SPECIFY PARAMETERS BELOW

1. SID     ===> RV1          REMOTE STATION    (?: LIST OF STATIONS)

2. USERID  ===> RUSER
                              REMOTE USER ID

3. LUSERID ===> LUSER        LOCAL USER ID (MAPPING)

4. JOBCARD ===> USER(JOBCARD)
                                    PATTERNJOB CARD FOR START USER JOBS
                                    SPECIFY DATASET AND MEMBERNAME




PF1/PF13 = HELP    PRESS END KEY TO TERMINATE
```

SID SID of the remote station.

USERID Remote user id transmitted by the remote station during the OFTP communication.

LUSERID Local RACF user id, used for mapping the remote user id.

JOBCARD Name of the dataset, containing a jobcard for the remote user id. This jobcard will be used for job submission by a resident receive entry.

Display/Update/Delete of a USP-Entry

The menu item Y shows a panel which allows the user to display, update or delete user mapping entries. The panel DFY00P00 helps to select a corresponding entry by specifying some selection criteria.

```
********************************** DFY00P00 ********************************
* R V S  -  DISPLAY / UPDATE / DELETE  OF USER SEPARATION RECEIVE ENTRIES  *
********************************************************************************
       COMMAND ===>                                                TIME  15:05
                                                                DATE-STD  05.311
                                                                DATE  2005/11/07
TO DISPLAY / UPDATE / DELETE A USER SEPARATION ENTRY,
SPECIFY THE FOLLOWING PARAMETERS FOR ENTRY SELECTION


1. SID       ===> RV1       STATION-ID (3 CHARACTERS, ID OF REMOTE STATION)


2. RUID      ===>
                             SPECIFY NAME/PATTERN OF REMOTE USER
                             ( BLANK = USER ID SELECTION LIST)




PF1/PF13 = HELP    PRESS END KEY TO TERMINATE
```

SID SID of the remote station.

RUID Remote user id.

If there are several user mapping entries matching the selection criteria, these are indicated as a list in the panel DFY20P00.

```
********************************* DFY20P00 ***************** Row 1 to 2 of 2
*  R V S - DISPLAY / UPDATE / DELETE OF USER SEPARATION RECEIVE ENTRIES    *
*****************************************************************************
COMMAND ===>                                                SCROLL ===> PAGE
REMOTE STATION = RV1 / TCPIP - STATION GM        DATE = 05.311  TIME = 15:10

SPECIFY OPTION:  S - DISPLAY ENTRY    U - UPDATE  ENTRY    D - DELETE  ENTRY

USER REMOTE ID                                            COMMENT
-----------------------------------------------------------------------------
RUSER
RUSER2
******************************** Bottom of data ******************************
```

Entering **S** in front of a list entry shows the details of the selection.

Entering **U** in front of a list entry shows the panel DFY30P00 for updating the selected user mapping entry.

Entering **D** in front of a list entry deletes the corresponding user mapping entry.

If there is only one user mapping entry matching the selection criteria, the corresponding details are indicated in panel DFY10P00.

```
********************************** DFY10P00 ******************************
* R V S - DISPLAY / UPDATE / DELETE  OF USER SEPARATION RECEIVE ENTRIES    *
**************************************************************************
COMMAND ===>
                                                DATE = 05.311     TIME = 15:16
SPECIFY OPTION ===>        D - DELETE ENTRY  U - UPDATE ENTRY

REMOTE STATION........ RV1

REMOTE USERID......... RUSER

LOCALE USERID......... LUSER

ACCOUNT NUMBER........ 3DFR004

ODETTEID.............. O0000000000GEDAS    RV1

JOBCARD...............
```

Entering option **D** deletes the actual user mapping entry.

Entering option **U** shows the panel DFY30P00 for updating the actual user mapping entry.

Display of USP Log Entries

The menu item Z shows a panel which allows the user to display user separation log entries. The panel DFZ00P00 helps to select a corresponding entry by specifying some selection criteria.

```
********************************** DFZ00P00 ******************************
*    R V S   -   DISPLAY USER PERMISSION LOG ENTRIES                     *
**************************************************************************

                                                                TIME   15:19
TO DISPLAY A LOG ENTRY,SPECIFY THE FOLLOWING PARAMETERS:    DATE-STD  05.311
                                                            DATE  2005/11/07
1. SID        ===> RV1        STATION-ID OF REMOTE STATION
2. TYPE       ===>            (R=RECEIVE, S=SEND)
3. USERID     ===>            MAPPED USERID
4. DSN        ===> 'LUSER.*'
                              DSN, FULL OR PARTIALLY QUALIFIED
5. FROM DAY   ===> 2005/11/07     YYYY/MM/DD
     TIME     ===> 00:00:00       HH:MM:SS
6. TO DAY     ===> 2005/11/07     YYYY/MM/DD
     TIME     ===> 23:59:59       HH:MM:SS
7. STATUS     ===> ALL        (OK/ERR/ALL)


                  PF1/PF13 = HELP    PRESS END KEY TO TERMINATE
```

SID SID of the remote station.

TYPE **S** show entries for send activities.

R show entries for receive activities.

USERID Local RACF user id.

DSN Name of the transmitted dataset (wildcards are possible). If no quotation marks are used, the first level pointer is entered automatically.

FROM DAY TIME Only entries with a queuing date greater or equal FROM DATE and TIME will be used.

TO DAY TIME Only entries with a queuing date less or equal TO DAY and TIME will be used.

STATUS Status of the transmission
- OK – Show only transmissions which were ended successfully.
- ERR – Show only transmissions which were ended erroneously.
- ALL – Show all transmissions.

The panel DZ10P00 shows a list of entries matching the selection criteria.

```
********************************* DFZ10P00 ************** Row 1 to 10 of 10
*       R V S   -   LIST OF FILTERED USER PERMISSION LOG ENTRIES           *
*****************************************************************************
COMMAND ===>                                                SCROLL ===> PAGE

                                        REMOTE STATION: RV1
SELECT A SINGLE ENTRY TO BE DISPLAYED ('S')
                      DATE AND TIME OF:       QUEUEING     TRANSMISSION
DATASET-NAME                                    DATE    TIME     DATE    TIME
LUSER.CJJCL                                  2005/10/31 12:45 2005/10/31 12:46
LUSER.JOBTEST                                2005/10/31 15:42 2005/10/31 15:42
LUSER.JOBTEST                                2005/10/31 10:23 2005/10/31 10:23
LUSER.JOBTEST                                2005/10/31 12:49 2005/10/31 12:49
LUSER.JOBTEST                                2005/10/31 10:33 2005/10/31 10:33
LUSER.JOBTEST                                2005/10/31 15:45 2005/10/31 15:50
LUSER.JOBTEST                                2005/10/31 12:51 2005/10/31 12:51
LUSER.JOBTEST                                2005/10/31 16:01 2005/10/31 16:04
LUSER.LOOPTEST                               2005/10/20 14:16 2005/10/20 14:16
LUSER.TESTDATA                               2005/11/07 13:49 2005/11/07 13:50
****************************** Bottom of data ******************************
```

Entering **S** in front of a list entry shows the details of the corresponding selection in panel DFZ20P00.

```
********************************** DFZ20P00 ******************************
*             R V S   -   DISPLAY USER PERMISSION LOG RECORD               *
******************************************************************************
COMMAND ===>                                                    TIME  15:29
REMOTE STATION.. GEA          RECORD TYPE..... LR      DATE-STD  05.311
DATASET NAME.... LUSER.JOBTEST                         DATE  2005/11/07
LOCAL DSN....... LUSER.JOBTEST
LOCAL USERID.... LUSER     ACCOUNT NR... 1EGS005   RACF C-USER.. LUSER
REMOTE USERID... FIX0GER
QUEUEING DATE... 2005/10/31   TRANSMISSION DATE.... 2005/10/31
QUEUEING TIME... 12:49:17,0   TRANSMISSION TIME.... 12:49:37,7
JOB CARD DSN.... LUSER                                 MEMBER JOBCARD
JOB DSN......... LUSER
JOB MEMBER OK... IEFBR14      JOB MEMBER ERR.......
               STATUS SEQ DATE       TIME       USER      JOBNUMMER PROGRAM
EVENT CREATE    OK     1  2005/10/31 12:49:37,8 RUSER                119B
EVENT DFUX001   OK     2  2005/10/31 12:49:37,8 RUSER                119A
EVENT OK JOB    OK     6  2005/10/31 12:49:41,5 RUSER     J0416004   058A
EVENT ERR JOB
EVENT SC START  OK     4  2005/10/31 12:49:38,6 RUSER                052V
EVENT SC END    OK     5  2005/10/31 12:49:41,3 RUSER                052V
EVENT END OF T  OK     3  2005/10/31 12:49:38,1 RUSER                094A

                           PRESS END WHEN FINISHED
```

REMOTE STATION — SID of the remote station, participated on the transmission.

RECORD TYPE — **LR** – The panel shows a receive entry.
LS – The panel shows a send entry.

DATASET NAME — The virtual dataset name during the transmission.

LOCAL DSN — The physical dataset name on the local system.

LOCAL USERID — The local user id, used for RACF authorization.

ACCOUNT NR. — Account number of the RACF C-USER

RACF C-USER — User id under which rvsMVS runs and created the log entry.

REMOTE USERID — The user id, sent by the remote station. If a user mapping entry exists, it is used for RACF authorization. Otherwise the transmitted user id is used.

QUEUEING DATE
QUEUEING TIME — Date at which the send or receive entry was created.

TRANSMISSION DATE
TRANSMISSION TIME — Date at which the transmission was started.

JOB CARD DSN — Name of the dataset, containing the jobcard of the corresponding remote user id.

JOB DSN — Name of the dataset, containing the job which may be submitted after a transmission.

JOB MEMBER OK — Name of the dataset member, containing the job which may be submitted after a successful transmission.

JOB MEMBER ERR — Name of the dataset member, containing the job which may be submitted after an erroneous transmission.

The second part of the panel DFZ20P00 shows the history of the transmission. The following events are possible.

EVENT CREATE — The event indicates the creating of a send or receive request.

EVENT DFUX001 — The event indicates the calling of the user exits DFUX001.

EVENT OK JOB — The event indicates the submission of a job after a successful transmission.

EVENT ERR JOB — The event indicates the submission of a job after an erroneous transmission.

EVENT SC START — The event indicates the start of the security component of rvsMVS.

EVENT SC END — The event indicates the end of the security component of rvsMVS.

EVENT END OF T — The event indicates the end of the transmission.

This page will be intentionally empty.

10. Appendix

A. rvs User Exits

A.1. Authorization Exit DFUX001

The exit DFUX001 may be used to check authorization for
- updates of the rvs Control Dataset
- transmission (sending) of datasets and/or
- the use of special processing options during or after receiption of datasets like "automatic jobstart" and others.

It may also be used to control which datasets are to be received and which datasets are not to be received (receiving rejected).

The use of this exit allows for example an accommodation of rvs to RACF requirements: the exit might check if a (RACF) user is authorized to transmit a dataset to another installation or if a (RACF) user is authorized to initiate a jobstart after receiption of a dataset.

The loadname DFUX001 of this exit is required.

For operating system MVS/XA, both, addressing mode (AMODE) and residency mode (RMODE) must be set to 24-bit-addressing.

The rvs loadlibrary on the installation tape contains this exit as a "dummy" exit. This means, the distributed exit consists of the following two instructions:

```
LA  15,0      set returncode to zero
BR  14        return to calling program
```

The exit is executed in different environments
1. Outside the address space of the rvs Monitor, for example if a send request is created by executing the program DF080A00.
2. In the address space of the rvs Monitor to check authorization during start of a transmission.

Depending on the results (returncode) and the environment of the exit,
- updates of the rvs Control Dataset may be rejected
- transmissions of datasets to be sent may be rejected
- specfications which have been made to control receiption of a dataset may be suppressed.
- reception of a file may be rejected.

Interface description of exit DFUX001:

If the exit is entered,
register 13 points to a 72 byte savearea
register 14 contains the return address and
register 1 points to a fullword which contains the address of a parameter list with the following fields:

offset(dec)	length	description
0	8 bytes	characterstring "RVSEXT01" (eye catcher)
8	1 byte	caller flags (bitstring) ....1 request for update of Control Dataset by operator

		(for example rvs command I-sid) .... ..1. request for update of Control Dataset by user (batchjob or tso user) .... 1... request for update of Control Dataset by rvs Monitor (should never be rejected by the exit).
9	1 byte	type of update flags (bitstring) ...1 .... request for insert a new record ..1. .... request for update of a record .1.. .... request to delete a record
10	1 byte	environment flags (bitstring) ....1 exit is called to check access to the Control Dataset .... ..1. exit is called to check authorization for sending/receiving files immediately at start of transmission. If this bit is on, the bytes at offset 8 and 9 are set to binary zeros.
11	1 byte	reserved
12	4 bytes	address of key of old kdrecord (only if bit 2 at offset 9 is set on (X'20') and update of record key is required), else set to zero.
16	4 bytes	address of current kdrecord. The layout of this record is described in Appendix B of this manual. No field of this record should be modified by the exit. The results may be unpredictable.
20	4 bytes	address of an area, into which the exit may place a message text in case of a nonzero returncode. Within the monitor, this message will be displayed by rvs with one of the following message identifiers: DF3526E or DF3736E if the exit is called in the receiving section, DF5632E or DF1602E if the exit is called in the send section. The layout of this message area is as follows: Bytes 1-2: Halfword, containing the length of a following message buffer. This length is at least 80 Bytes. This field should not be changed by the exit. Bytes 3-n: Message buffer. rvs always clears this buffer with blank characters before the exit is called. After call of the exit rvs checks this buffer for blanks in order to decide whether a message is to be displayed or not.

The exit may set one of the following return codes in register 15:

0 to indicate that transmission or receiption of the dataset shall continue normally.

4 to indicate an abnormal condition. Depending on the environment in which the exit is executed, this may result in

- rejection of an update of the controldataset
- rejection of sending of a file
- suppression of processing options when receiving a file.

12 to indicate that reception of a file is to be rejected. This returncode is meaningless if the exit is executed outside the address space of the rvs monitor or if it is executed within the send section of the rvs monitor.

All other returncodes will be handled in the same way as returncode 4.

Rules for coding of exit DFUX001:

This exit must be coded reusable or reentrant. The exit must restore the contents of registers 2 - 13 when returning control to the calling rvs program.

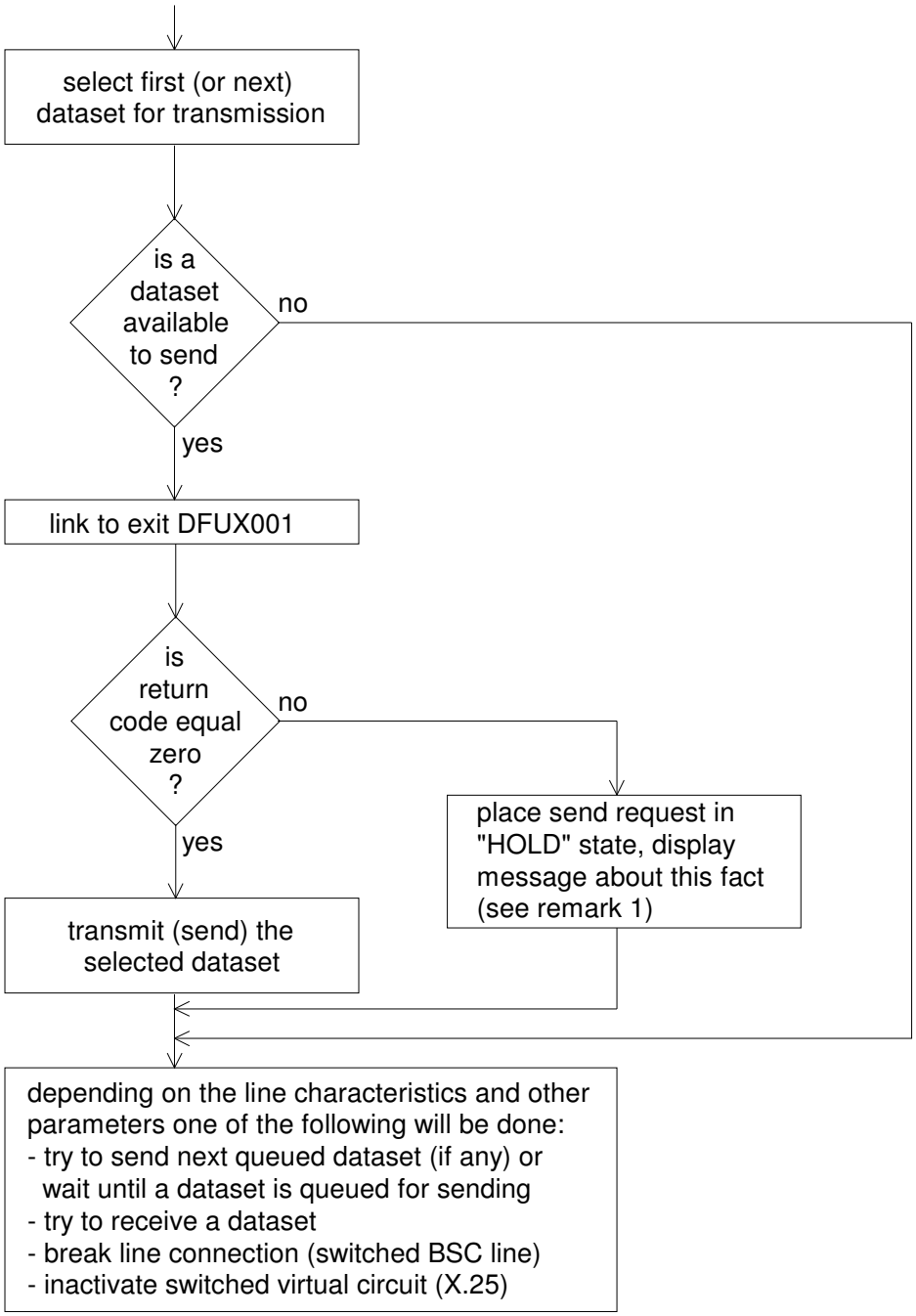
The exit should not modify

- any field of the current record of the rvs Control Dataset ("KDRECORD")
- the length field of the message buffer.

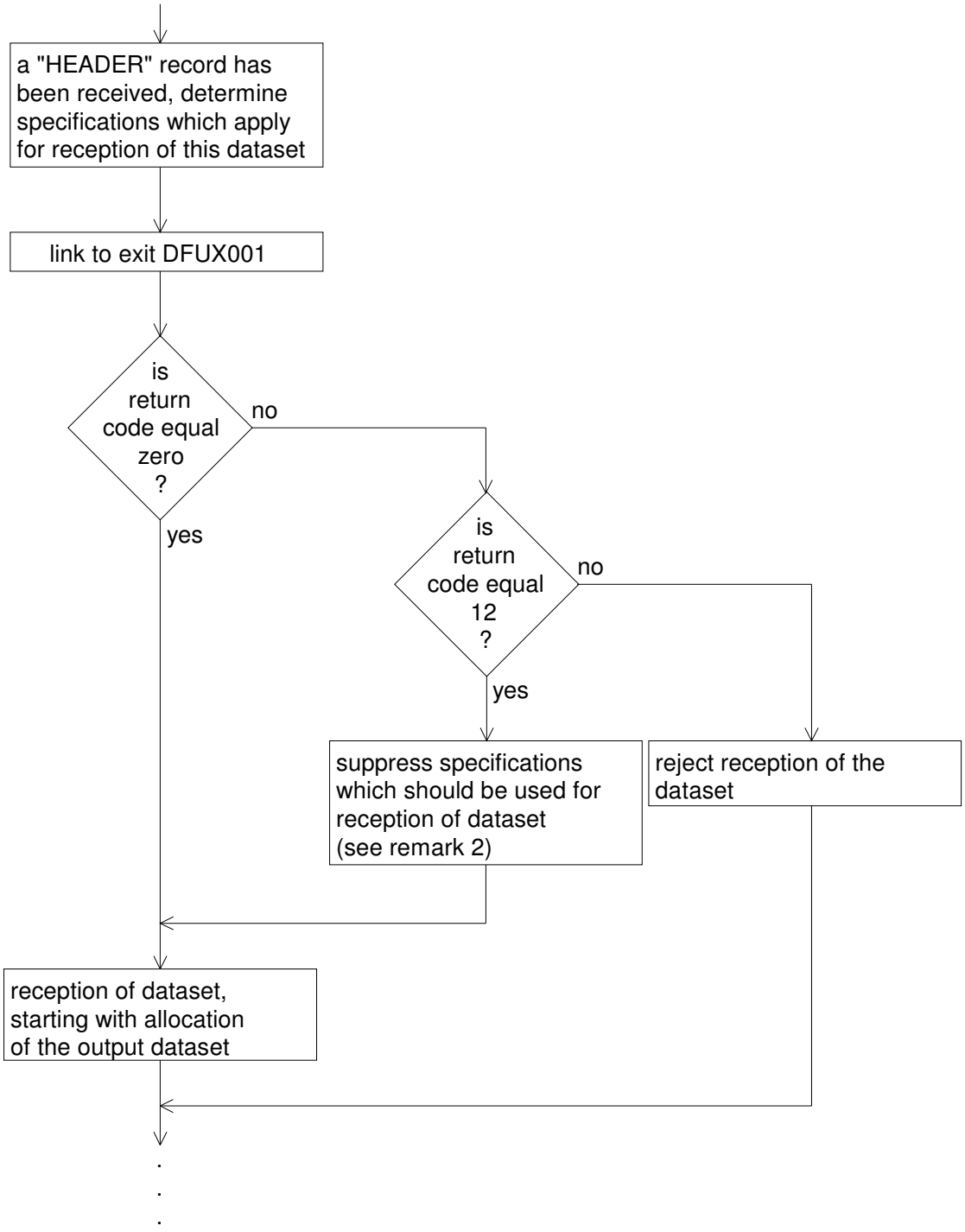
The following logic (send or receive section) applies to

- each active send session (rvs-SNA session)
- each active leased line (BTAM/BSC)
- each active switched line (BTAM/BSC) after establishing line connection to a remote rvs station.
- each active switched virtual circuit (SVC) to a remote rvs station. "Active" here always means that the line (or session) has been activated within the rvs monitor.

Logic within the send sections:


select first (or next) dataset for transmission
is a dataset available to send ?
no
yes
link to exit DFUX001
is return code equal zero ?
no
yes
place send request in "HOLD" state, display message about this fact (see remark 1)
transmit (send) the selected dataset
depending on the line characteristics and other parameters one of the following will be done:
- try to send next queued dataset (if any) or wait until a dataset is queued for sending
- try to receive a dataset
- break line connection (switched BSC line)
- inactivate switched virtual circuit (X.25)

Logic within the receiving sections:


a "HEADER" record has been received, determine specifications which apply for reception of this dataset
link to exit DFUX001
is return code equal zero ?
no
yes
is return code equal 12 ?
no
yes
suppress specifications which should be used for reception of dataset (see remark 2)
reject reception of the dataset
reception of dataset, starting with allocation of the output dataset

Remarks:

1) If the exit returns control to rvs with a nonzero returncode, the send request (a record of type "AS" within the rvs Control Dataset) will be placed in "HOLD" state. This means, the send request will not be accessed by rvs until the rvs command "S sid" has been entered for this request.

2) Specifications for receiption include such things as automatic jobstart, rename function or the use of a special disk volume (unit group) to store the received dataset. If the exit returns control to rvs with returncode 4 or 8, all such specifications (done during creation of a "resident receive entry" in the receiving station or done during creation of the send request (by specifying "remote options") in the sending station) will be ignored by RVS. Receiving of the dataset will be performed as if
   - no "resident receive entry" exists for this dataset and
   - no "remote options" have been specified when the dataset was queued for sending in the sending station.

   Instead of these specifications, (installation dependent) default values will be taken. If the received dataset contains job control which is to be submitted (RJE function), rvs will perform this function independent of the exit returncode. rvs will suppress this only if the definition of the remote station within the rvs stations table excludes the RJE function (see Installation Manual, definition of the station table.

   If the exit returns control to rvs with returncode 12 within the receiving section, reception of the file will be rejected. If the exit returns control to rvs with returncode 12 outside the receiving section, rvs will act in the same way as described for returncode 4.

rvs will always display a nonzero returncode of exit DFUX001 by writing a message to the console.

Remarks about the use of different KDRECORD fields:

Fields of special interest if the exit is called within the send sections of the rvs monitor or if it is called during creation of a send request outside the address space of the monitor (value of KDRECTYP: =C'AS') (see also Appendix B of this manual):

KDREMOTE	same value as KDFINAL
KDDSN	dataset name used as reference between sender and receiver
KDDSNNEW	physical dataset name
KDUSERID	jobname or TSO userid, which created this record (send request)
KDRUSER	RACF userid of the above job (TSO-session), if RACF is installed (else blank)

If the exit is called within the receive sections of the rvs monitor (value of KDRECTYP: =C'AR') or if it is called during creation of a resident receive entry outside the address space of the monitor (value of KDRECTYP: =C'RR'), the following fields are important in each case:
KDREMOTE, KDDSN and KDDSNNEW

There are four groups of other fields, which may be of interest:

1. Sysout specifications, indicated by a nonblank field KDSYSOUT.
   This group includes
   KDSYSOUT, KDPROG, KDFORM, KDCOPIES and KDDEST.

   Sysout specifications may have been done in the receiving station by creating a resident receive entry (indicated by bit KDRESREC of field KDBITS3) or in the sending station (if bit KDRESREC is set off). If sysout parameters are specified in the sending station, a resident receive entry in the receiving station will be ignored by RVS.

2. Remote options specified in the sending station (indicated by bit KDRMTOPT in field KDBITS2)
   This group includes
   KDVOLNRR, KDSUNIT, KDDEVR, KDDISPR and KDBITSR1.

   If remote options are specified in the sending station and this station is authorized for this (see Installation Manual, definition of the stations table), a resident receive entry in the receiving station will be ignored by rvs.

3. Specifications within a resident receive entry (indicated by bit KDRESREC in field KDBITS3).

   This group includes
   KDDEVTYP, KDSUNIT, KDVOLNRD, KDDISP, KDJOBDSN, KDJOB, KDUSERID, KDRUSER and all fields of group 1.

   Automatic jobstart after receiption of a dataset is indicated by a nonblank field KDJOB. If the field KDJOBDSN does not contain the name of a PDS, the name of the central rvs jobdataset is valid (the central jobdataset is allocated to the rvs Monitor with the ddname RVSJOBS, see Installation Manual, description of the rvs Start Procedure).

   Fields KDUSERID and KDRUSER contain the values which have been taken from the job (TSO session) during creation of the resident receive entry. These fields may be blank if the resident receive entry had been created in earlier rvs releases than rvs-OS Release 3.2.

4. User fields KDEXTFLD, KDUSER.

   The content of these fields is transmitted from sender to receiver of the file. So these fields may be used for communication between exits within sending and receiving station.
   Field KDEXTFLD is used by the SNA- and BSC components, field KDUSER is used by the X25 component (ODETTE FILE TRANSFER PROTOCOL). This explains the different length of the fields.
   If KDEXTFLD is filled with data in the sending station, field KDEXTTYP should be set to character "E".

Example of exit DFUX001:

An example of DFUX001 is located on the rvsMVS installation tape in the rvs source library (2. file). Please refer to this example in case of need of adaptation to your environment.

A.2. rvsWIN Exit DFUX002

The exit DFUX002 may be used to check authorization for access of rvsWIN users to rvsMVS.

The use of this exit allows for example an accommodation of rvs to RACF requirements: the exit might check if an rvsWIN user using an RACF userid is authorized to get access to the rvsMVS on the host.

The loadname DFUX002 of this exit is required.

For operating system MVS/XA, both, addressing mode (AMODE) and residency mode (RMODE) must be set to 24-bit-addressing.

The rvs loadlibrary on the installation tape contains this exit as load module. The source module is distributed, as well. This distributed exit is adapted to RACF and may be adjusted if another security subsystem is used.

The exit is executed when an rvsWIN user wants to establish a session with rvsMVS. A password record (V-record) is exchanged between rvsWIN and rvsMVS and then checked in the exit DFUX002.

Depending on the results (returncode) and the environment of the exit the access to rvsMVS is accepted or rejected (return code RC). An appropriate message is generated in DFUX002 and sent back to the rvsWIN user as further information.

Interface description of exit DFUX002:

If the exit is entered,
- register 13 points to a 72 bytes savearea
- register 14 contains the return address and
- register 1 points to a fullword which contains the address of a parameter list with the following fields:

offset(dec)	length	description
0	fullword	Address of password record received by rvsWIN (VRECORD, layout see below). Should not be modified.
4	fullword	Address of remote station of the assigned station entry (STNAME, length: 8 bytes, first 3 bytes significant). In case that no valid station entry is found a default entry $W1 or $W2 is provided. In this case the access is to be rejected. Should not be modified.
8	fullword	Address of password (STRECVPW, 8 bytes) specified in station entry STNAME. May be blank if it is not specified. Should not be modified.
12	fullword	Address of userid (STUSERID, 8 Bytes) specified in station entry STNAME. May be blank if it is not specified. Should not be modified.
16	fullword	Address of message area (MSGAREA, 30 Bytes) sent back to rvsWIN as a result of DFUX002.
20	fullword	Address of return code (RC, 2 Bytes) sent back to rvsWIN as a result of DFUX002.

The following record is sent by rvsWIN to rvsMVS directly prior to call of exit DFUX002:

```
**  V RECORD ** PASSWORD RECORD (rvsWIN -> rvsMVS) *****

VRECORD       DS     0C
VRTYPE        DS     C       constant C'V'
VRMODE        DS     C       direction SEND C'S' or RECEIVE C'R'
VRNULL        DS     C       constant C'0'
VRSID         DS     CL3     remote station id
VRPWRD        DS     CL8     password (may be blank)
VRUSERID      DS     CL8     userid (may be blank)
VRNPWRD       DS     CL8     new password (in case of password change)
VRLEN         EQU    *-VRECORD
```

At least one of both fields VRPWRD and VRUSERID must be specified by the rvsWIN user, otherwise, the access is to be rejected by DFUX002.

The exit may set one of the following return codes in field RC:

0 to indicate that access to rvsMVS is accepted

All other returncodes indicating that the access is rejected. All return codes must be accompanied by a message in field MSGAREA. This message is sent back to rvsWIN and displayed on the screen.

Rules for coding of exit DFUX002:

This exit must be coded reusable or reentrant. The exit must restore the contents of registers 2 - 13 when returning control to the calling rvs program.

Example of exit DFUX002:

An example of DFUX002 is found on the rvsMVS installation tape in the rvs source library (2. file). Please refer to this example in case of need of adaption to your environment.

An example of a station table entry for rvsWIN is specified in Chapter 6.2.2, SNA Stations, parameter TYPE=WIN-3270.

A.3. Accounting User Exit

The accounting user exit may be used to obtain data about all executed transmissions in order to process these data for reasons of accounting (or other reasons, for example statistics).

This exit is called by the rvs monitor if the start parameter "ACEXIT=name" has been specified, see chapter 6.1.

For operating system MVS/XA, both, addressing mode (AMODE) and residency mode (RMODE) must be set to 24-bit-addressing.

If installed, the exit is given control
- just after start of the rvs monitor (without any accounting information),
- after each transmission of a dataset (send or receive), independent of the fact whether the transmission ended normally or not,
- just before stop of the rvs monitor (without any accounting information).

Interface description of the exit:

If the exit is entered,
- register 13 points to a 72 byte savearea
- register 14 contains the return address and
- register 1 contains the address of a parameter list with the following fields:

offset(dec)	length	description
0	1 byte	flags from calling module (bitstring) ....1 first call of exit .... ..1. next call of exit .... .1.. last call of exit
1	3 bytes	reserved
4	4 bytes	address of the "accounting information record" (the layout of this area is described in appendix C of this manual). This address is valid only if the first byte of this parameter list indicates "next call of exit".

Rules for coding:

The exit must be coded reusable. rvs loads the module after start and keeps it until the monitor is stopped.
The exit must restore the contents of registers 2 - 13 when returning control to the calling rvs program, register 15 should be set to zero. The address of the "accounting information record" may change every time when the exit is given control.

Coding example for accounting user exit

An example of accounting exit is found on the rvsMVS installation tape in the rvs source library (2. file, member ACEXIT). Please refer to this example in case of need of adaption to your environment.

A.4. Job Submit Exit DFUX003

The exit DFUX003 may be used to check, modify or suppress job submission executed by the rvs monitor after receiption of a dataset.

Exit DFUX003 is executed in following cases:
- the received dataset contains JCL which is to be submitted by rvs and the remote station (where the dataset comes from) is authorized for this function (for this authorization see description of rvs Stations Table, parameter "OPTIONS").
- a dataset has been received and automatic jobstart is defined for this dataset (see rvs User's Manual, section "Creation of Resident Receive Entries", parameter "JOB").

The use of this exit allows for example an accommodation of rvs to RACF requirements: the exit might check if a (RACF) user (who has created a resident receive entry with automatic jobstart) is authorized for access to the jobsdataset specified within the resident receive entry.

The loadname DFUX003 of this exit is required.

For operating system MVS/XA, both, addressing mode (AMODE) and residency mode (RMODE) must be set to 24-bit-addressing.

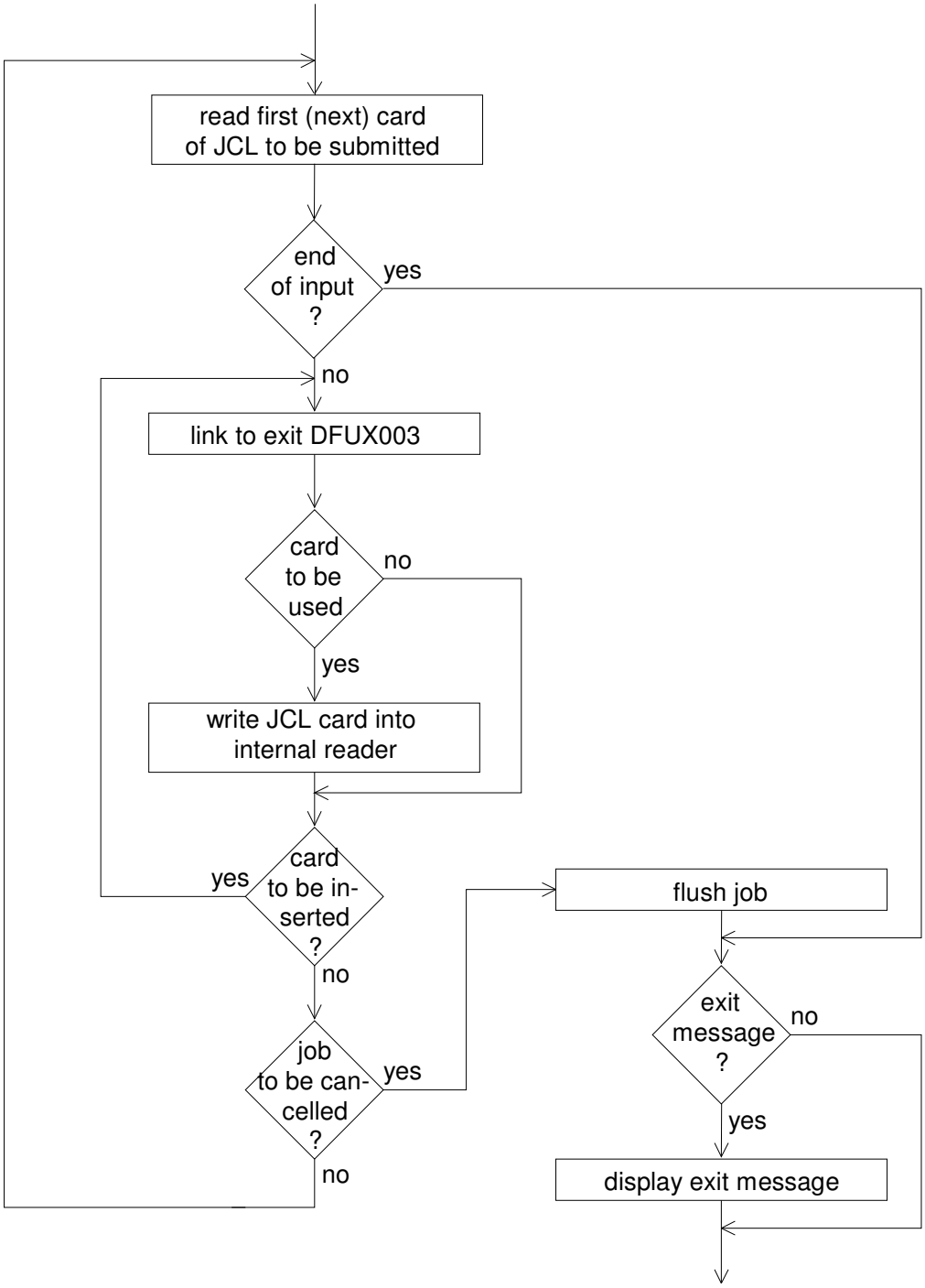
The rvs loadlibrary on the installation tape contains this exit as a "dummy" exit. This means, the distributed exit consists of the following two instructions:

```
LA      15,0    set returncode to zero
BR      14      return to calling program
```

Depending on the results (returncodes) of the exit, the job to be submitted may be

- modified (modify, delete or insert JCL cards)
- suppressed (flush of job)

The following figure shows the environment in which the exit DFUX003 is executed:



Interface description of exit DFUX003:

If the exit is entered,
- register 13 points to a 72 byte savearea
- register 14 contains the return address and
- register 1 points to a fullword which contains the address of a parameter list with the following fields:

offset(dec)	length	description
0	8 bytes	characterstring "RVSEXT03" (eye catcher)
8	1 byte	flags from calling module (bitstring) ....1 first call of exit during submission of a job (first card of JCL is passed to the exit) .... ..1. next call of exit during submission of a job .... .1.. last call of exit during submission of a job (no JCL card is passed to the exit during this last call).
9	1 byte	type of job flags (bitstring) ....1 the JCL to be submitted is a PDS member (automatic jobstart specified within resident receive entry). For obtaining names of PDS and member see remarks below .... ..1. the JCL to be submitted is the content of the received dataset (remote job submit)
10	1 byte	reserved
11	1 byte	reserved
12	4 bytes	address of a workarea which may be used by the exit length of this workarea: 8 bytes
16	4 bytes	address of current kdrecord. The layout of this record is described in Appendix B of this manual. No field of this record should be modified by the exit. The results may be unpredictable.
20	4 bytes	address of an area, into which the exit may place a message text in case of returncodes 8 or 16. Within the monitor, this message will be displayed by rvs with message identifier "DF5803I". The layout of this area: byte 1-2: Halfword, containing the length of a following message buffer. This length is at least 70 bytes. This field has to contain the length of the message and has to set by the exit. byte 3-n: Message buffer. rvs always clears this buffer with blank characters before the exit is called.
24	4 bytes	address of the JCL card which is passed to the exit. If this field is zero, no card is passed to the exit. If the exit sets this field to zero, this card will be omitted for job submit.

Remarks:
If the job to be submitted is a PDS member, the name of this PDS and member may be found in fields "KDJOBDSN" and "KDJOB" of the current KDRECORD (see appendix B).

If the JCL card shall be modified by the exit, these modifications can be done directly within the area containing the current card. This area contains the original card (no copy) which rvs uses for processing after execution of the exit.

The exit may set one of the following return codes in register 15:

0 the current JCL card is to be used for job submit. If the address of the card within the parmlist is zero, the card will be omitted.

4 Indication to insert one ore more cards. Processing of the current card is done in the same way as for return code 0, but the next call of the exit is performed without reading the next JCL card.

8 Indication that the exit is no more to be executed during this job submission. Processing of the current card is done in the same way as for return code 0. All following cards will be read from the input file and stored into the internal reader without execution of the exit. For this return code, a message may be passed from the exit to the calling program.

16 Indication that the job submission is to be cancelled. All prior processed cards are flushed. For this return code, a message may be passed from the exit to the calling program.

All other return codes will be handled in the same way as return code 16.

Rules for coding of exit DFUX003:

This exit must be coded reusable or reentrant.

The exit must restore the contents of registers 2 - 13 when returning control to the calling rvs program.

The exit should not modify
- any field of the current record of the rvs Control Dataset ("KDRECORD")
- the length field of the message buffer.

A.5. Identification User Exit

This exit may be used to check, modify and control the identification phase, which is executed on switched BSC lines after establishing of the line connection (dialing).

This exit is called by the rvs monitor if the start parameter "IDEXIT=name" has been specified (see chapter 6.1), where "name" denotes the load name of the exit.

The exit is executed in following cases:
- Immediately before sending of the own identification to the remote station
- After receiption of the identification from the remote station. If the exit is given control, rvs has already checked validity of the received station identification.

An example for using this exit is to change the SID in the identification phase which fact is given in case of transmission with the 'Daten Austausch Kommunikations System' (DAKS) of Daimler Benz in Germany.
For an example look at the end of this appendix.

Restrictions:
The exit will be executed only within the line control program DF055A00, this means that the line entry within the rvs stations table must specify a program profile, which contains the module name "DF055A00" in columns 4-12.

Depending on the results (returncodes) of the exit, the identification phase will be cancelled (break of line connection) or continued normally.

The loadname of this exit is free selectable.

For operating system MVS/XA, both, addressing mode (AMODE) must be set to 31-bit-adressing and residency mode (RMODE) must be set to 24-bit-addressing.

Interface description of the exit:

If the exit is entered,

- register 13 points to a 72 byte savearea
- register 14 contains the return address
- register 15 contains the entry point of the exit and
- register 1 points to a fullword which contains the address of a parameter list with the following fields:

offset(dec)	length	name	description
0	1 byte	IXTMODE IXTFIRST IXTNEXT IXTLAST	flags from calling module (bitstring) ....1 first call of exit after activation of the line (only for initialization of the exit) .... ..1. next call of exit .... .1.. last call of exit (before stop of the line control program, only for close processing ect. within the exit) xxxx x... reserved
1	1 byte	IXTCNTL IXTCBSND IXTCARCV IXTLDSOI IXTLDMOR IXTNIDEX IXTX4914 IXTIDAVL	control flags (bitstring) (valid only if bit 6 (value X'02') at offset 0 within this list is set to 1) ....1 call of exit before sending of the own identification to the remote station .... ..1. call of exit after receiption of the identification from the remote station .... .1.. the local station sends the own id before receiving the id from the remote station (slave or initiator) .... 1... the local station sends the own id after receiving the id from the remote station (master or responder) ...1 .... the local station does not send the own id to the remote station (no id exchange, only receiption of the remote id) ..1. .... the format of the identification record (address at offset 4 within this list) is as follows: the first two bytes contain the characterstring "X ", followed by a variable number of 10 byte fields containing (left justified) a station identification or blanks (for communication with DAKS (Daimler Benz), the second of these 10-byte fields is used) .1.. .... information (id) of the remote station is available xxxx x... reserved

2	1 byte	IXTRSVD1	reserved
3	1 byte	IXTRSVD2	reserved
4	4 bytes	IXTIDREC	address of the identification record (zero if no record is available)
8	2 bytes	IXTIDRLN	length of the identification record (binary)
10	2 bytes	IXTRSVD3	reserved
12	4 bytes	IXTRVSID	address of a 3-byte field containing the remote station id as specified within the rvs stations table (parameter "SID", this address is valid only if bit 1 (value X'40') at offset 1 within this list is set to 1.
16	4 bytes	IXTDNUM	address of a 20-byte field containing the dial number for the remote station as specified within the rvs stations table (parameter "DIALNUM"). this address is set to zero if no dialnumber is specified or available.
20	4 bytes	IXTDBID	address of a 10-byte field containing the value of parameter "DBID" as specified within the rvs stations table for the remote station. This address is set to zero if no "DBID" parameter is specified or available.
24	4 bytes	IXTLINE	address of a 3-byte field containing the subchannel number of the used line.

The exit may set one of the following return codes in register 15:

0 to indicate that identification (and following activities) shall continue normally.
4 reserved
8 reserved
12 to indicate that the identification phase is to be cancelled. In this case, the line connection will be broken.

All other returncodes will be handled in the same way as returncode 12.

Rules for coding of the exit:

This exit should be coded reentrant (linkage editor attributes reusable and reenterable). If the exit is not coded reentrant, the exit must be link edited without attributes 'reenterable' and 'reusable'. Link attribute 'reusable' may cause errors if more than one BSC line is used within the installation.

The exit must restore the contents of registers 2 - 13 when returning control to the calling rvs program.

The exit should not modify
- any field within the parameter list described above
- any field pointed to by the parameter list, except the identification record.

Environment of the exit:

The exit is loaded after activation of the line (start of the line control program DF055A00). If more than one BSC line is used by rvs, the exit is loaded for each line after line activation, this means the exit checks and controls the identification phases only for one line.

After loading the exit, rvs passes control to the exit (first call of exit) in order to allow initialization of the exit (open processing etc.).

The next calls of the exit are performed in order to check and control the identification phases which are executed on the line.

If the line (line control program) is stopped (rvs command "P lll" or "P ALL"), the exit is given control a last time which may be used for close processing etc.

Example: Use of this exit for identification to DAKS's stations (Communication with Daimler Benz)

Understanding for use

The exit can work successfully only if
- rvsMVS is calling with automatic dial (in this case the partner station of Daimler Benz is known)

or
- the partner station sends their own identification first.

If first rvsMVS sends the identification (slave-reaction) or no automatic dial is used the exit does not work successfully.

Working mode

The exit changes the identification record (X-record) wich will sent by rvs if
- the exit is called before sending own identification (exit parameterlist, field IXTCNTL, bit IXTCBSND is on)
- Daimler Benz ID of the partner station is known (exit parameterlist, field IXTDBID is filled)
- the identification record is known (exit parameterlist, field IXTIDREC is filled) This identification record must be 22 bytes long at least (exit parameterlist, field IXTIDRLN) and is in conformity with the 'VDA-Empfehlung 4914' (exit parameterlist, field IXTX4914)
- the ID table of the exit contains the Daimler Benz ID in the left part (exit table, field IDTAB)

If all these four conditions are fulfilled, the right part value of the table replaces the value of the 'STATION'-parameter (rvs-tables dataset, member CNTL: STATION=(sid,dbid)).

For example: The DB-ID addressed by the field IXTDBID has the value '01234567899 '. In this case rvs sends the value '099911590 ' in the X-record.

Hints for installation

- you can use the exit after modification of the table (field IDTAB)
  Note:
  the right side of the table contains the ID's which rvs is used for identification in the partner station, the left side of the table contains this ID's which the partner station(s) are used for identification to rvs.
- you must declare for rvs the use of the exit in the start parameter (rvs-Tables dataset, member CNTL, parameter 'IDEXIT=loadname')
- the exit is used by the line control program DF055A00 only, check the rvs-Program Profile Table, col. 5-12)

Example for coding the IDEXIT

An example of the IDEXIT is found on the rvsMVS installation tape in the rvs source library (2. file, member IDEXIT). Please refer to this example in case of need of adaption to your environment.

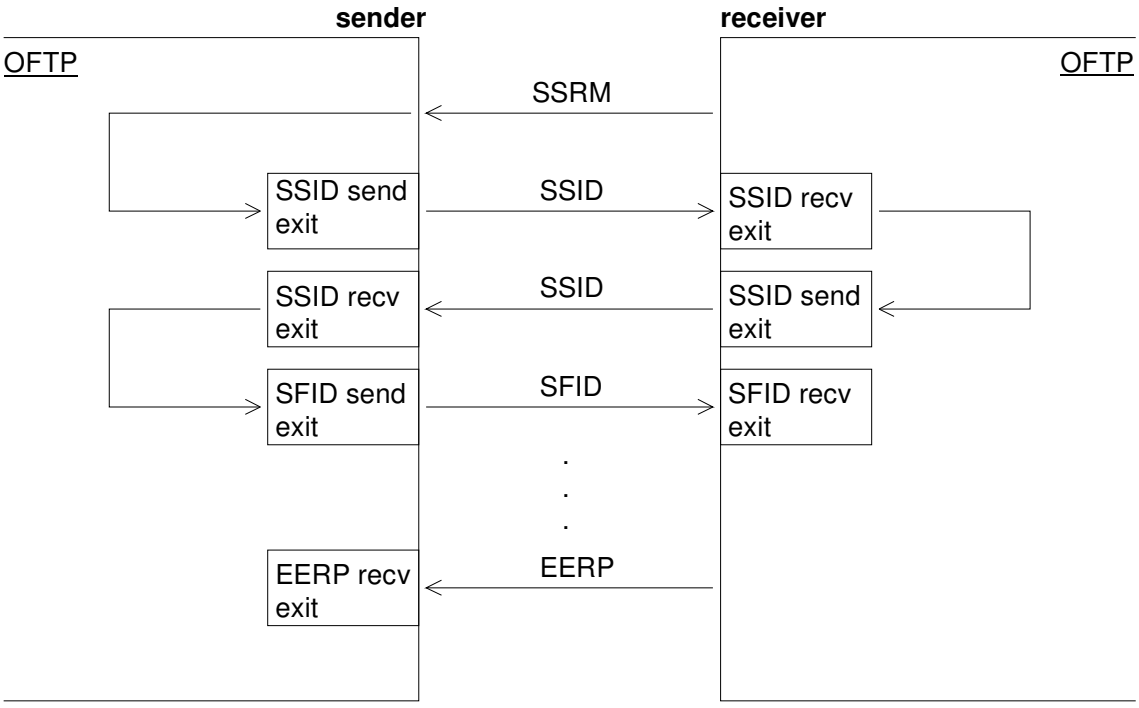
A.6. ODETTE FTP User Exits

Starting with rvsMVS 1.2.06 there are OFTP aided user exits in different layers of the ODETTE file transfer protocol. These user exits are:

- SSID_User_Exit (send and receive)
- SFID_User_Exit (send and receive)
- EERP_User_Exit (receive)

Starting with rvsMVS 2.2.00, the user fields of SSID and SFID are used for the PDS transfer function. If SSID- and/or SFID-user exits are installed for certain stations, the PDS transfer function is not supported for these stations.

In the flow of an ODETTE protocol session, the user exits are available for the following protocol elements:



When the user exit gets control, register 1 points to a list of two words, which points

- to the data portion of the OFTP buffer
- to the current station entry.

On this way you can address all fields of an ODETTE FPDU and you have access to all informations of the station entry. The first byte of an ODETTE FPDU is the OFTP command code.

- SSID (send and receive) user exit

```
EXSSID   DSECT
SFIDCMD  DS    CL1
SFIDDSN  DS    CL51
SSIDUSER DS    CL8
```

- SFID (send and receive) user exit

```
EXSFID   DSECT
SFIDCMD  DS    CL1
SFIDDSN  DS    CL26
         DS    CL21
SFIDUSER DS    CL8
```

- EERP (receive) user exit

```
EXEERP   DSECT
EERPCMD  DS    CL1
EERPDSN  DS    CL26
         DS    CL21
EERPUSER DS    CL8
```

  This exit may be used to inform an application of the reception of the 'receipt' EERP, which is the only valid indication for a complete and safe file transfer. The virtual file name of the transmitted dastaset may be found in the 26 bytes field starting at offset 1 of the EERP ODETTE FPDU. (Look to the 'ODETTE SPECIFICATIONS FOR FILE TRANSFER' for more informations about ODETTE FPDU's. The actual edition is OFTP/Revision 1.3, Dec. 1992)

Programming rules:

- the AMODE and RMODE of this exits are not restricted, you can use AMODE=24 or AMODE=31 modules.
- the exit must be reentrant
- the exit gets control via a branch instruction
- the exit must fulfill the MVS linkage convention, he must restore the registers 2 - 13 in returning to OFTP and
- register 15 may contain a returncode a nonzero returncode will cause termination of the transmisson

Starting with rvsMVS 1.2.10, there will be an OFTP user exit for a user aided check of the X.25 number.

In the flow of the ODETTE protocol session this user exit is executed in the following situation:

When the exit gets control, register 1 points to a parameterlist consisting of the following 5 fullwords:

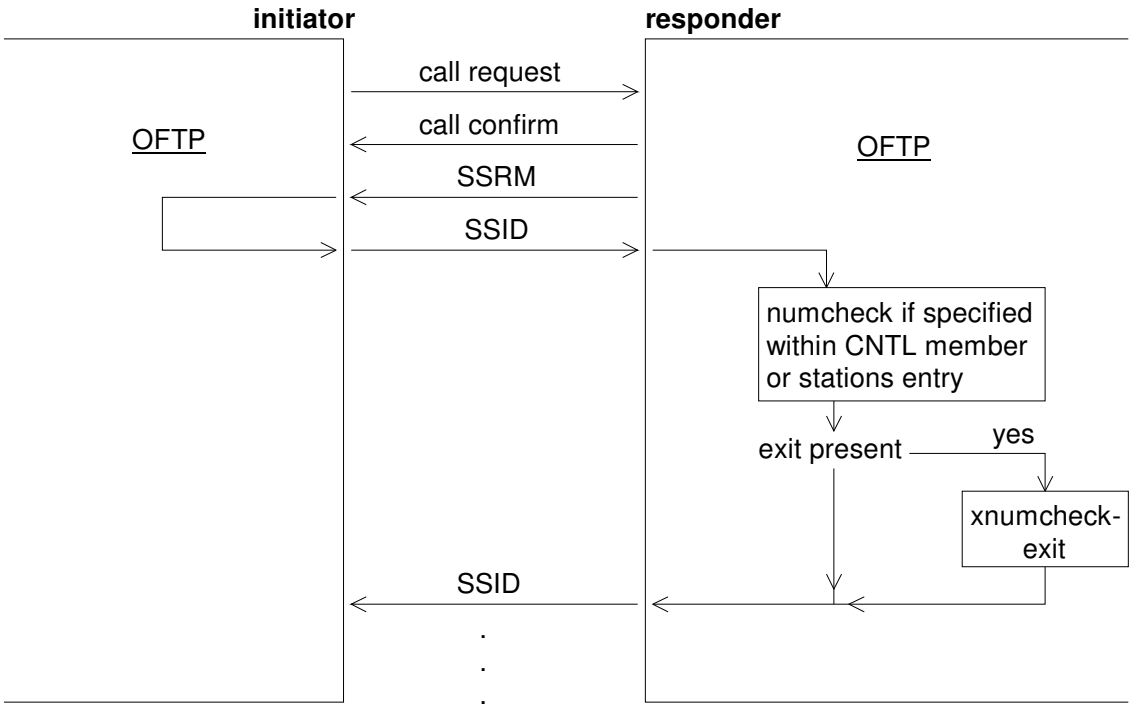
1. fullword: address of the received SSID buffer
2. fullword: address of the stations table entry for the remote station
3. fullword: return code of module DF006A (standard numcheck)
4. fullword: address of the X.25 number as defined for the remote station within the stations table
5. fullword: address of the X.25 number obtained out of the received X.25 call request packet.

This exit may return two values to the calling program:

- a return code (returned in register 15): a nonzero return code will cause termination of the connection.
- a (changed) return code of DF006A (returned in register 1)

If the connection shall be established, both returncodes must be zero, otherwhise the connection request will be rejected.

If the connection is to be rejected, rvs sends the OFTP protocol unit 'End Of Session Id' (ESID) with reason code 03 (unknown user code) instead of SSID back to the initiator.



B. Description of the rvs controldataset record (KDRECORD)

This chapter contains the KDRECORD in terms of an assembler space description. The record description is part of the installation tape (member KDRECORD of the rvs source library) and may be used as a DSECT within the rvs user exits DFUX001, DFUX002 and DFUX003.
If used as a DSECT, addressibility should be established by coding the symbolic name KDRECORD within the USING statement. The address of the record within the parameter list of the exits is the address of the field KDRECTYP on offset 6 within this DSECT.
Some (exit dependent) remarks about the use of different fields are listed in Appendix A as part of the exit description.

```
         DSECT
*************************************************************************
*        CAUTION : THIS RECORD HAS ALWAYS TO START AT THE LAST          *
*                  HALFWORD-BOUNDARY WITHIN A DOUBLEWORD                *
*************************************************************************
         CNOP  6,8
KDRECORD EQU   *
KDSTART  EQU   *
*************************************************************************
*       rvs-KEYWORDS IN LOGICAL ORDER (KEY OF RECORD)                   *
*************************************************************************
KDRECTYP DS    CL2          RECORD TYPE
*
*        AR - ACTIVE RECEIVING
*        AS - ACTIVE SEND (SEND-REQUEST)
*        CR - COMPLETE RECEIVE (WRITTEN AT END (ABEND) OF RECEIVING
*        CS - COMPLETE SEND (WRITTEN AT END OF TRANSMISSION (SEND))
*        RR - RESIDENT RECEIVE RECORD
*
         ORG   *-1
KDTRANS  DS    C            TRANSMISSION DIRECTION (R=RECEIVE, S=SEND)
KDREMOTE DS    CL3          ID OF REMOTE STATION
         DS    CL5          RESERVED
KDDSN    DS    CL44         DATA SET NAME (UP TO 44 CHARS)
*                           THIS NAME IS A 'VIRTUELL' OR 'REFERENCE' NAME
*                           OF THE DATASET USED FOR COMMUNICATION BETWEEN
*                           THE LOCAL AND THE REMOTE STATION. IT MAY (BUT
*                           NEED NOT) BE THE PHYSICAL DSNAME.
*                           THE PHYSICAL DSNAME SHOULD BE OBTAINED FROM
*                           FIELD 'KDDSNNEW'
KDREADYD DS    F            QUEUING DATE OF THE DATASET
KDREADYT DS    F            QUEUING TIME OF THE DATASET
KDSTARTD DS    F            TRANSMISSION START DATE
KDSTARTT DS    F            TRANSMISSION START TIME
KDKEYEND EQU   *

*************************************************************************
*        CONTROL-INFORMATION FOR THIS TRANSMISSION                      *
*************************************************************************
         DS    XL2          RESERVED
KDBITS   DS    0XL4         MIXED FLAGS
KDBITS1  DS    X
KDBQISID EQU   X'08'        KDRECORD QUEUED BY OPERATOR WITH  I-SID
KDBITS2  DS    X
KDRELAIS EQU   X'40'        THIS STATION IS A RELAIS-STATION
KDRMTOPT EQU   X'04'        REMOTE OPTIONS ARE SPECIFIED
*
KDBITS3  DS    X
KDRESREC EQU   X'10'        RESIDENT RECEIVE ENTRY (KDRECTYP=RR) HAS BEEN
*                           USED AS A MODEL FOR THIS RECORD (ONLY IF
```

```
*                          KDTRANS=R)
KDBITS4  DS    X
         DS    XL14        RESERVED
KDBITS5  DS    X           BITSTRING
KDRSTART EQU   X'40'       VALID ONLY IF KDTRANS=R: RESTART IN PROGRESS
*                          (RESTART COUNT MAY BE ZERO)
         DS    XL59        RESERVED
KDVOLNRD DS    CL6         VOLUME NUMBER DISK
KDVOLNRT DS    CL6         VOLUME NUMBER TAPE
         DS    XL61        RESERVED
KDDEVTYP DS    X           DEVICE-TYP. MEANING OF THE BITS IS:
*
TAPE     EQU   X'80'
GDG      EQU   X'08'
DISK     EQU   X'20'
MSS      EQU   X'22'
JOB      EQU   X'10'       THE RECEIVED DATASET CONTAINS JCL WHICH IS
*                          TO BE STARTED BY rvs
SYSOUT   EQU   X'01'       THE RECEIVED DATA SHALL BE COPIED TO A
*                          SYSOUT QUEUE
         DS    X           RESERVED
*********************************************************************
*        INFORMATION FOR DATASET-PROCESSING AFTER TRANSMISSION      *
*********************************************************************
KDDSNNEW DS    0CL44       PHYSICAL DSNAME OF THE DATASET TO BE SENT
*                          OR RECEIVED
KDDSNOLD DS    CL44        ALIAS NAME FOR KDDSNNEW
KDSYSOUT DS    C           SYSOUT CLASS (IF 'KDDEVTYP' = SYSOUT)
*
KDDISP   DS    X           DATA SET DISPOSITION :
KEEP     EQU   X'80'           X'80' = KEEP
CATLG    EQU   X'40'           X'40' = CATLG
UNCATLG  EQU   X'20'           X'20' = UNCATLG
DELETE   EQU   X'10'           X'10' = DELETE
*
KDSUNIT  DS    CL8         SYMBOLIC UNIT NAME
KDDEST   DS    CL6         DESTINATION (WHEN SYSOUT-DATASET)
KDPROG   DS    CL8         SYSOUT PROGRAM NAME
KDJOB    DS    CL8         NAME OF A PDS MEMBER CONTAINING A JOB WHICH
*                          IS TO BE STARTED BY rvs AFTER THE DATASET
*                          HAS BEEN RECEIVED
KDCOPIES DS    CL2         NUMBER OF SYSOUT-COPIES
KDFORM   DS    CL4         SYSOUT FORM NUMBER

*
         DS    CL12        RESERVED
*********************************************************************
*        FURTHER INFORMATION                                        *
*********************************************************************
         DS    CL5         RESERVED
KDFIRST  DS    CL3         ORIGIN STATION-ID
         DS    CL5         RESERVED
KDFINAL  DS    CL3         ID OF THE FINAL STATION
         DS    XL30        RESERVED
KDUSERID DS    CL8         TSO-USERID OR NAME OF THE BATCHJOB WHICH
*                          CREATED THIS RECORD (SEND REQUEST OR RESIDENT
*                          RECEIVE ENTRY)
         DS    CL14        RESERVED
*********************************************************************
*        INFORMATION ABOUT REMOTE DATASET (REMOTE OPTIONS)          *
*********************************************************************
         DS    CL8         RESERVED
KDVOLNRR DS    CL6         VOLUME-NO OF REMOTE DATASET
```

```
KDDEVR   DS    X          DEVICE-TYPE OF REMOTE DATASET
KDDISPR  DS    X          DISPOSITION OF REMOTE DATASET
         DS    XL31       RESERVED
KDBITSR  DS    0XL4
KDBITSR1 DS    X
KDRJE    EQU   X'20'      RJE-FUNCTION IS REQUESTED
KDREPL   EQU   X'10'      REQUEST TO REPLACE EXISTING DATASET (MEMBER)
KDBITSR2 DS    X
KDBITSR3 DS    X
KDBITSR4 DS    X
*********************************************************************
*        FIELDS USED BY EXITS (RACF) AND FOR FUTURE USE             *
*********************************************************************
KDRUSER  DS    CL8        RACF-USERID (IF RACF IS INSTALLED) OF THE
*                         USER (JOB) WHO CREATED THIS RECORD (SEND
*                         REQUEST OR RESIDENT RECEIVE ENTRY)
KDJOBDSN DS    CL44       DATASET NAME OF THE PDS CONTAINING THE JOB
*                         TO BE STARTED BY rvs AFTER RECEIVING. THE
*                         MEMBERNAME MAY BE OBTAINED FROM FIELD 'KDJOB'
KDEXTFLD DS    CL20       RESERVED FOR USER,
*                         KDRECTYP=AS, FIELD WILL BE TRANSMITTED
*                         KDRECTYP=AR, FIELD IS FILLED FROM SENDER
*
KDEXTTYP DS    CL1        TYPE OF FIELD KDEXTFLD:
*                         E -FIELD KDEXTFLD HAS BEEN FILLED BY DFUX001
*                         S -FIELD KDEXTFLD HAS NOT BEEN FILLED BY
*                            DFUX001. IT CONTAINS INFORMATION WHICH IS
*                            TRANSFERRED FROM SENDER TO RECEIVER.
         DS    XL44       RESERVED
KDUSER   DS    CL8        USER FIELD, THIS FIELD IS TRANSMITTED FROM
*                         SENDER TO RECEIVER IF THE ODETTE FILE
*                         TRANSFER PROTOCOL IS USED FOR TRANSMISSION
         DS    XL27       RESERVED
KDEND    EQU   *          END OF RECORD
```

C. Description of accounting information

This chapter contains the layout of the area passed to the accounting user exit routine (if the rvs start parameter "ACEXIT=name" is coded), in terms of an assembler space description. This description is part of the installation tape (member ACXTAREA of the rvs source library) and may be used as a DSECT if an accounting user exit shall be installed.

```
*********************************************************************
*  rvs ACCOUNTING RECORD  (USED FOR USER ACCOUNTING EXIT)           *
*********************************************************************
         DS    0D
ACSTART  EQU   *
ACLENGTH DS    H          LENGTH OF RECORD (INCL. FIELD ACLENGTH)
         DS    H          RESERVED
*********************************************************************
*  GENERAL DATA                                                     *
*********************************************************************
ACMODEL  DS    CL4        SYSTEM ID (SAME AS FIELD SMCASID OF SMCA)
ACJOBNM  DS    CL8        JOB NAME
*********************************************************************
*  DATA OF TRANSMISSION                                             *
*********************************************************************
ACREADYD DS    F          QUEUING DATE OF THE DATASET, FORMAT 00YYDDDF
ACREADYT DS    F          QUEUING TIME OF THE DATASET, FORMAT HHMMSSTF
ACSTARTT DS    F          TRANSMISSION START TIME (BINARY, IN UNITS
*                         OF CENTISECONDS)
ACSTARTD DS    F          TRANSMISSION START DATE (FORMAT: 00YYDDDF)
ACENDT   DS    F          TRANSMISSION END TIME (BINARY, IN UNITS
*                         OF CENTISECONDS)
ACENDD   DS    F          TRANSMISSION END DATE (FORMAT: 00YYDDDF)
ACTRANS  DS    C          DIRECTION OF TRANSMISSION
*                         R = RECEIVING
*                         S = SENDING
ACLTYPE  DS    C          LINE TYPE
*                         B = BSC LINE (SWITCHED OR LEASED)
*                         V = VTAM LINE (SNA SESSION)
*                         X = X.25 LINE (ODETTE PROTOCOL)
*                         T = TCP/IP LINE (ODETTE PROTOCOL)
*                         H = XOT LINE (ODETTE PROTOCOL)
ACCTCPN  DS    H          INDEX NUMBER
ACLOCAL  DS    CL3        rvs STATION ID OF LOCAL (OWN) STATION
         DS    XL5        RESERVED
ACDIRECT DS    CL3        rvs STATION ID OF DIRECT CONNECTED STATION
         DS    XL5        RESERVED
ACSENDER DS    CL3        rvs STATION ID OF (FIRST) SENDER
         DS    XL5        RESERVED
ACRECEIV DS    CL3        rvs STATION ID OF (FINAL) RECEIVER

         DS    XL5        RESERVED
ACLINEAD DS    CL3        PHYSICAL LINE (SUBCHANNEL) ADDRESS IF
*                         ACLTYPE=B
         DS    X          RESERVED
ACNUMBER DS    CL7        ACCOUNT NUMBER SPECIFIED (OR OBTAINED BY
*                         DEFAULT) FOR THIS TRANSMISSION
         DS    X          RESERVED
ACDSN1   DS    CL44       NAME OF DATASET (USED FOR COMMUNICATION WITH
*                         REMOTE STATION)
ACDSN2   DS    CL44       PHYSICAL NAME OF DATASET (USED TO ALLOCATE
*                         THE DATASET ON DISK)
ACVOLS   DS    CL6        DISK VOLUME NUMBER OF DATASET
         DS    XL2        RESERVED
```

```
ACRECFM  DS    X          RECORD FORMAT OF DATASET (SAME FORMAT AS
*                         FIELD DCBRECFM OF DCB1)
         DS    X          RESERVED
ACBLKSI  DS    H          BLOCKSIZE OF DATASET
ACLRECL  DS    H          RECORD LENGTH OF DATASET
ACRSTCNT DS    H          NUMBER OF RESTARTS (BINARY, PERFORMED TO
*                         TRANSMIT/RECEIVE THIS DATASET)
*                         01 - NORMAL START OF TRANSMISSION
*                         02 - FIRST RESTART AFTER TRANSMISSION ABEND
*        THE FOLLOWING FOUR FIELDS CONTAIN DIFFERENT COUNTS. FOR FILES
*        BIGGER THAN 2,1 GB, THESE VALUES MAY BE INCORRECT BECAUSE
*        A FULLWORD IS LIMITED TO 2,1 GB. FIELDS ACXDSBTE, ACXLNBTE
*        ACXRSTBL, ACXBLCKS BELOW REPRESENT THE CORRECT VALUES.
*        BUT, FOR REASONS OF COMPATIBILITY, THE FOLLOWING FOUR FIELDS
*        WILL ALSO BE PROVIDED WITH DATA FURTHER ON.
ACDSBYTE DS    F          NUMBER OF READ/WRITTEN DATASET BYTES SINCE
*                         START (LAST RESTART) OF TRANSMISSION (BINARY)
ACLNBYTE DS    F          NUMBER OF BYTES TRANSMITTED (COMPRESSED DATA
*                         BYTES + BYTES OF rvs CONTROL RECORDS) SINCE
*                         START (LAST RESTART) OF TRANSMISSION (BINARY)
ACRSTBLK DS    F          BLOCK (OR RECORD) NUMBER WITHIN DATASET,
*                         FROM WHICH THE LAST RESTART HAS STARTED
*                         (BINARY VALUE)
ACBLOCKS DS    F          NUMBER OF TRANSMITTED BLOCKS (OR RECORDS)
*                         OF DATASET (INCLUDING THE NUMBER OF TRANS-
*                         MITTED BLOCKS (RECORDS) OF ALL PREVIOUS
*                         RESTARTS) (BINARY VALUE)
ACDTYPE  DS    C          TYPE OF UNITS OF FIELDS ACRSTBLK, ACBLOCKS
*                         B - COUNT OF DATASET BLOCKS
*                         R - COUNT OF DATASET RECORDS
         DS    X          RESERVED
ACSCC    DS    CL3        SYSTEM COMPLETION CODE (WHEN ABEND)
*                         (CHARACTER FORMAT)
ACUCC    DS    CL3        USER COMPLETION CODE (WHEN ABEND)
*                         (CHARACTER FORMAT)
ACUSREXT DS    F          CORRESPONDING FIELD TO FIELD KDUSREXT OF
*                         THE KD-RECORD (USE IN DFUX001)
*
*        EXTENSION STARTING WITH RVSMVS RELEASE 4.07.00
*
ACXDSBTE DC    PL8'0'    NUMBER OF BYTES IN DATASET (PACKED FORMAT)
ACXLNBTE DC    PL8'0'    NUMBER OF BYTES TRANSMITTED (PACKED FORMAT)
ACXRSTBL DC    PL8'0'    STARTING BLOCK NUMBER DURING RESTART (PACKED)
ACXBLCKS DC    PL8'0'    TOTAL BLOCKS TRANSMITTED (PACKED FORMAT)
ACEND    EQU   *
         SPACE 2
```

D. rvs statistics

D.1. General Information

Station Activity

The rvs Station Activity program provides a station related summary of all important transmission data (like number of transmissions, number of transmitted bytes, speed etc.).

Statistics are available for
- a single station,
- a group of stations (groups must be specified by the user, see D.4a) all stations

Possible time intervals of calculation are
- one day, or
- one month.

Line Activity

The rvs Line Activity Program generates a chart which shows the usage of a switched line
- per day of the chosen month, or
- per hour of the chosen day.

D.2. Prerequisites

Dataset 'RVS.TPSTAT'

Basic data will be accumulated in a permanent dataset which is used as data base of both of the rvs statistics programs.
It is called 'RVS.TPSTAT' hereafter and should have following attributes:

ORGANIZATION:	physical sequential
RECORD FORMAT:	fixed blocked
RECORD LENGTH:	39 bytes
BLOCK SIZE:	19500 bytes (may be changed)
SPACE:	1 cylinder (approx.)

Important :
Each transmission is represented within 'RVS.TPSTAT' by a 39-byte record. Assumed that the average number of transmissions per day is 30, the chosen space of 1 cylinder of a 3380 disk (approx. 40000 bytes/track), is big enough to accumulate statistics data of more than 1 year (500 days). If more transmissions are planned or already executed the space specification must be increased to avoid overflow.

D.3. Job to gain the basic data for the statistics

Basic data will be obtained from a rvs log file called 'RVS.LOG.SAVE' (assigned DD-name 'LOGSAVE' within kdsave/logsave procedure, see member PDF0014A of 'RVS.TABLES').

Important : It is necessary to run the accumulation job immediately after the kdsave/logsave procedure to be sure that 'RVS.LOG.SAVE' contains only data since the last save procedure.

The following job (member 'ACCUM' of dataset 'RVS.TABLES') is an example for starting the accumulation job :

```
//A        JOB
/*****************************************
/***                                    **
/***    ACCUMULATION OF STATISTICS DATA  **
/***                                    **
/*****************************************
//ACCUM    EXEC  PGM=DF555B
//STEPLIB  DD    DSN=RVS.LOAD,DISP=SHR
//SYSIN    DD    DSN=RVS.LOGSAVE,DISP=SHR
//SYSOUT   DD    DSN=RVS.TPSTAT,DISP=MOD,
//   DCB=(RECFM=FB,LRECL=39,BLKSIZE=19500)
/*
```

D.4. Station Activity Program

Prerequisites for a group related evaluation

If a certain selection of stations is needed you can define your own groups in a dataset. This dataset is called 'RVS.GROUPS' hereafter and should have following attributes :
PHYSICAL SEQUENTIAL, 80 BYTES RECORD LENGTH, FIXED BLOCKED.

'RVS.GROUPS' must have the following layout :

title line :	column 1-2	= group title (short form)
	column 6-18	= group title (long form)
	column 19-80	= comment
station line :	column 1	= must be blank
	column 2-4	= station identification
	column 6-27	= station address
	column 28-80	= comment
comment line :	column 1	= '*'
	column 2-80	= comment

Example of 'RVS.GROUPS' :

```
|********************* TOP OF DATA ***********************************|
|*|||V||||1||||V||||2||||V||||3||||V||||4||||V||||5||||V||||6||....|||8|
|*                                                                     |
|BK   BANKS                                                           |
| B15 DEUTSCHE BANK                                                   |
| B16 CITI BANK                                                       |
| B17 BANKS OF THE OHIO                                               |
|*                                                                    |
|IM   IMPORTERS                                                       |
| USA UNITED STATES/MIAMI                                             |
| CAN CANADA/TORONTO                                                  |
| DAN DANMARK/KOPENHAGEN                                              |
|******************* BOTTOM OF DATA ***********************************|
```

A group of stations will be selected only by its short title (two characters long), the long form will be written into the headline of the outputlist.
The logical end of a group is reached at the next short title (beginning at the first column!). Station addresses will be put into the address fields of the output list.

Note :
An 'all station' evaluation is possible with or without allocated dataset 'RVS.GROUPS'. The difference is that the address field in your output list can be filled only if this station is mentioned in 'RVS.GROUPS'.

Jobs (Station Activity)

Starting of 'Station Activity' is possible either by a TSO CLIST (member 'STATCL' of dataset 'RVS.TABLES') or by a batch job (member 'STATJOB' of dataset 'RVS.TABLES').

Batch Job ('RVS.TABLES(STATJOB)') :

```
//A        JOB
/*****************************************************************
/***         R V S   S T A T I S T I C S                       **
/***   **  S T A T I O N   A C T I V I T Y  **                  **
/***   REQUIRED PARAMETERS :  DAY, MONTH, YEAR                 **
/***   - 2 NUMERICS EACH; IF MONTHLY CALCULATION REQUIRED       **
/***     SET DAY=00                                            **
/***   OPTIONAL PARAMETER  :  GROUP                            **
/***   - SELECTION OF A CERTAIN GROUP OF STATIONS IS            **
/***     POSSIBLE IF DATASET 'RVS.GROUPS' IS ALLOCATED.        **
/***   - IF DATASET 'RVS.GROUPS' IS NOT ALLOCATED, SET         **
/***     GROUP=ALL (ALL STATIONS) OR GROUP=sid (STATION        **
/***     IDENTIFICATION OF A SINGLE STATION)                   **
/*****************************************************************
//STATJOBA EXEC PGM=DF552A,PARM='DAY=  ,MON=  ,YEAR=  ,GROUP=  '
//STEPLIB  DD  DSN=RVS.LOAD,DISP=SHR
//SYSIN    DD  DSN=RVS.TPSTAT,DISP=SHR
//GROUPS   DD  DSN=RVS.GROUPS,DISP=SHR
//SYSOUT   DD  DSN=RVS.ZW1,DISP=(NEW,CATLG,DELETE),UNIT=SYSDA,
//    SPACE=(CYL,(1,1),RLSE)
/*
//SORT     EXEC  PGM=SORT
//SORTIN   DD    DSN=RVS.ZW1,DISP=(OLD,DELETE)
//SORTOUT  DD    DSN=RVS.ZW2,DISP=(NEW,CATLG,DELETE),UNIT=SYSDA,
//    SPACE=(CYL,(1,1),RLSE)
//SYSIN    DD    *
     SORT FIELDS=(1,5,CH,A)
//SORTWK01 DD    UNIT=SYSDA,SPACE=(CYL,1)
//SORTWK02 DD    UNIT=SYSDA,SPACE=(CYL,1)
//SORTWK03 DD    UNIT=SYSDA,SPACE=(CYL,1)
//SYSOUT   DD    SYSOUT=*
/*
//STATJOBB EXEC  PGM=DF551A
//STEPLIB  DD    DSN=RVS.LOAD,DISP=SHR
//SYSUT1   DD    DSN=RVS.ZW2,DISP=(OLD,DELETE)
//SYSUT2   DD    SYSOUT=*
//SYSOUT   DD    SYSOUT=*
/*
```

TSO Clist:

You will find an example of this CLIST on rvsMVS installation tape, file 'RVS.TABLES(STATCL)'.

Clist layout :

```
            R V S   S T A T I S T I C S
        **  S T A T I O N   A C T I V I T Y  **

SELECT STATION/STATION GROUP     ('ALL' OR BLANK ---> ALL STATIONS)
         =====>  all

SELECT DAY,MONTH,YEAR            (DAY=00 ---> MONTHLY STATISTICS)
  DAY    =====>  00
  MONTH  =====>  01
  YEAR   =====>  87

  PARMS OK  (ALL 00 01 87)
  CALCULATION OF STATION ACTIVITY STARTS ...
```

Output List (Station Activity)

```
R V S - S T A T I S T I C S     OCTOBER 86       ====> ALL STATIONS             (CREATED: 27.11.86)


SID(VIA) ADDRESS    DIRECTION      TRANSM(BRKS)  TIME(H:M:S)  LINEBYTES     DATABYTES     COMPRESSN  SPEED(BPS)
=============================================================================================================
STA      STATION A    RECEIVED     18 (  0)     0:01:16          22.609         71.120     31 %       2.364
                      SENT         99 (  2)     4:29:48       4.524.933     12.407.166     36 %       2.236
 - - -  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

SID = identification of the remote station
VIA = identification of the relais station (only for indirect transmissions)
ADDRESS = address of the remote station (note : address field is empty if dataset 'RVS.GROUPS' is not used)
DIRECTION = direction of transmission (received or sent)
RECEIVED = data received from remote station
SENT = data sent to remote station
TRANSM = total number of transmissions, breaks inclusive
BRKS = number of transmission breaks
TIME(H:M:S) = transmission time in hours,minutes,seconds
LINEBYTES = number of transmitted bytes (compressed data)
DATABYTES = number of bytes of the origin data
COMPRESSN = average compression in percent of origin size (COMPRESSN = LINEBYTES x 100 / DATABYTES)
SPEED(BPS) = average speed of transmission in bits per second (SPEED = LINEBYTES x 8 / TIME)

D.5. Line Activity Program

Jobs (Line Activity)

Starting of 'Line Activity' is possible either by a TSO CLIST (member 'LINECL' of dataset 'RVS.TABLES') or by a batch job (member 'LINEJOB' of dataset 'RVS.TABLES').

Batch Job ('RVS.TABLES(LINEJOB)') :

```
//A        JOB
/*************************************************************
/***         R V S   S T A T I S T I C S                    **
/***      **   L I N E   A C T I V I T Y  **                 **
/***   REQUIRED PARAMETERS :  DAY, MONTH, YEAR               **
/***      ( NUMERICS EACH; IF MONTHLY CALCULATION REQUIRED    **
/***      SET DAY=00 )                                       **
/***   REQUIRED PARAMETER  :   SUBCHANL   (3 CHARACTERS)     **
/*************************************************************
//LINEJOB  EXEC PGM=DF553A,PARM='DAY=  ,MON=  ,YEAR=  ,SUBCHANL=   '
//STEPLIB  DD  DSN=RVS.LOAD,DISP=SHR
//SYSUT1   DD  DSN=RVS.TPSTAT,DISP=SHR
//SYSUT2   DD  SYSOUT=*
```

TSO Clist

You will find an example of this CLIST on rvsMVS installation tape, file 'RVS.TABLES(LINECL)'.

Clist layout :

```
           R V S   S T A T I S T I C S
         **  L I N E   A C T I V I T Y  **

SELECT LINE
LINE   ====>  095

SELECT DAY,MONTH,YEAR        (DAY=00 ---> MONTHLY STATISTICS)
DAY    =====>  00
MONTH  =====>  01
YEAR   =====>  87

PARMS OK  (095 00 01 87)
CALCULATION OF LINE ACTIVITY STARTS ...
```

Output List (Line Activity)

```
     *  R V S   S T A T I S T I C S  *                              |
                                                                   |
   LINE ACTIVITY  01/87   ===> LINE 0E3    (CREATED: 20.01.87)     |
                                                                   |
       0%                      25%                       100%      |
 DAY   |-----------------------------------------------|           |
 01.01 |                         |                       |   0 %   |
 02.01 |****                     |                       |   4 %   |
 03.01 |                         |                       |   0 %   |
 04.01 |                         |                       |   0 %   |
 05.01 |********************     |                       |  20 %   |
 06.01 |**********               |                       |  10 %   |
 07.01 |***********              |                       |  11 %   |
 08.01 |********                 |                       |   8 %   |
 09.01 |******************************                   |  30 %   |
 10.01 |                         |                       |   0 %   |
 11.01 |                         |                       |   0 %   |
 12.01 |***************          |                       |  15 %   |
 13.01 |**********************************               |  34 %   |
 14.01 |***************          |                       |  15 %   |
 15.01 |*****************        |                       |  17 %   |
 16.01 |*************            |                       |  13 %   |
 17.01 |                         |                       |   0 %   |
 18.01 |                         |                       |   0 %   |
 19.01 |********************     |                       |  20 %   |
 20.01 |****                     |                       |   4 %   |
 21.01 |                         |                       |   0 %   |
 22.01 |                         |                       |   0 %   |
 23.01 |                         |                       |   0 %   |
 24.01 |                         |                       |   0 %   |
 25.01 |                         |                       |   0 %   |
 26.01 |                         |                       |   0 %   |
 27.01 |                         |                       |   0 %   |
 28.01 |                         |                       |   0 %   |
 29.01 |                         |                       |   0 %   |
 30.01 |                         |                       |   0 %   |
 31.01 |                         |                       |   0 %   |
       |-----------------------------------------------|           |
```

D.6. Legend of rvs statistics

TOTAL NUMBER OF RECORDS (dd/mm/yy) : number of records of the chosen time interval
NUMBER OF VALID RECORDS : number of valid records
NUMBER OF IGNORED RECORDS : number of implausible or comment records

Records will be ignored within the statistics for the following reasons:

Implausible records :

TIME : End time of transmission is less than start time of transmission.

COMPRESSED : Number of linebytes[6] is less than 1 % of number of databytes[7].

[6] Linebytes = transmitted bytes (compressed)
[7] Databytes = origin number of bytes (uncompressed)

OVERHEAD : Number of linebytes is greater than 125 % of the number of databytes (too much overhead).
Exception :
Small datasets (databytes < 1000). Every dataset to transmit will be expanded by adding the control records of transmission protocol. So it is possible that a very small dataset could become greater than 125 % of its origin size.

SPEED : Transmission speed is lower than 25 bits per second.

EMPTY FILES : Number of databytes or number of linebytes is equal zero.

POOR FILES : Number of linebytes is less than 300.
Exception :
Excepted are small datasets (databytes < 1000).

Comment records :

Only comment, the valid transmission data are represented by extra records.

CANCELLED : A transmission has been cancelled by operator.

DELETED : The send request of a transmission has been deleted by the operator.

RETRANSMITS :A retransmission has been started by operator.

This page will be intentionally empty.

E. Example for an extended rvs Start Procedure

The following JCL is an example, how the procedures PDF0009A and PDF0014A can be executed in conjunction with the rvs Startprocedure (PDF0001A). This example ist designed for a JES3 environment and uses condition codes.

```
//A        JOB
//*****************************************************************
//*              TEST IF RVS.KDSAVE.TEMP IS (STILL) EXISTING      *
//*****************************************************************
//TEST     EXEC  PGM=IDCAMS
//SYSPRINT DD    SYSOUT=*
//SYSIN    DD    *
       LISTC  ENTRY(RVS.KDSAVE.TEMP)
//*****************************************************************
//*              BACKUP COPY OF CONTROL AND LOG DATASET           *
//*****************************************************************
//SAVE     EXEC  PGM=DF072A00,PARM='RESERVE,NOSAVE=30',
//             COND=((0,EQ,TEST))
//STEPLIB  DD    DSN=RVS.LOAD,DISP=SHR
//SYSPRINT DD    SYSOUT=*
//KD       DD    DSN=RVS.KD,DISP=SHR
//RVSLOG   DD    DSN=RVS.LOG,DISP=SHR
//KDSAVE   DD    DSN=RVS.KDSAVE.TEMP,UNIT=SYSDA,
//             DISP=(NEW,CATLG,DELETE),SPACE=(CYL,(1,1))
//LOGSAVE  DD    DSN=RVS.LOGSAVE.TEMP,DISP=SHR,
//             DCB=(LRECL=1000,BLKSIZE=20000,RECFM=FB)
//*****************************************************************
//*              DELETE RVS.KDSAVE.TEMP                           *
//*****************************************************************
//DELETE   EXEC  PGM=IDCAMS,COND=((0,EQ,TEST),(4,NE,SAVE))
//SYSPRINT DD    SYSOUT=*
//SYSIN    DD    *
       DELETE RVS.KDSAVE.TEMP
//*****************************************************************
//*              SUBMIT OF SAVETEMP TO COPY KDSAVE TO TAPE        *
//*****************************************************************
//SUBMIT   EXEC  PGM=DF901A00,COND=((0,EQ,TEST),(0,LT,SAVE))
//STEPLIB  DD  DSN=RVS.LOAD,DISP=SHR
//IN       DD  DSN=RVS.TABLES(SAVETEMP),DISP=SHR
//OUT      DD  SYSOUT=(A,INTRDR)
//*****************************************************************
//*              DELETE OLD RECORDS FROM CONTROLDATASET           *
//*****************************************************************
//PDF0009A EXEC  PROC=PDF0009A,INTV=2
//             COND=((0,EQ,TEST),(4,LT,SAVE),(0,LT,SUBMIT))
//*****************************************************************
//*              rvs MONITOR                                      *
//*****************************************************************
//MONITOR  EXEC PROC=PDF0001A,
//             COND=((0,EQ,TEST),(4,LT,SAVE),(0,LT,SUBMIT))
```

Remarks for the single steps within this job:

Step TEST:
The first step of this job determines if the dataset RVS.KDSAVE.TEMP is cataloged or not. If it is cataloged, this step ends with condition code 0 and all following steps will be bypassed and the rvs Monitor will not start. This indicates, that the temporary copy of the Controldataset is not yet processed (and deleted), see also step SUBMIT. If RVS.KDSAVE.TEMP is not cataloged, this step ends with returncode 4 and processing of the following job steps continues.

Step SAVE:
This step creates backup copies of Control- and Logdataset if the usage of the Logdataset is 30 % or more. In this case, the step ends with returncode 0 and step DELETE will be bypassed. If copies are suppressed because of parameter "NOSAVE=30", step DELETE is executed as next and RVS.KDSAVE.TEMP will be deleted.

Step DELETE:
This step is executed only if creation of a backup copy for the Controldataset has been suppressed because of parm "NOSAVE=30" in step SAVE.

Step SUBMIT:
This step is executed only if creation of a backup copy for the Controldataset has been done. A separate job is copied from member SAVETEMP of the rvs Tables Dataset to the internal reader and thus submitted to the system. This job (member SAVETEMP) is as follows:

```
//COPY     JOB
//*****************************************************************
//*        COPY BACKUP COPY OF CONTROLDATASET TO TAPE              *
//*****************************************************************
//COPY     EXEC  PGM=IEBGENER
//SYSUT1   DD    DSN=RVS.KDSAVE.TEMP,DISP=(OLD,DELETE,KEEP)
//SYSUT2   DD    DSN=RVS.KDSAVE,DISP=(NEW,CATLG,DELETE),UNIT=TAPE,...
//SYSIN    DD    DUMMY
//SYSPRINT DD    SYSOUT=*
```

It is useful to perform the 'copy to tape' function within a separate job because the other steps of the start job must not wait for a tape mount in this case.
If this separate job has completed, the temporary dataset RVS.KDSAVE.TEMP is deleted and no problems will occure within step TEST, if the start job is executed next time.

Step PDF0009A:
This step executes procedure PDF0009A. Deletion of records will be performed only if this has not been done during the last two days (parameter INTV=2).

Step MONITOR
Last but not least the rvs Monitor is started if everything else (especially the control for backup copy) was ok.

F. Reference Utility (program DF076A)

The utility program DF076A converts data from selected records of the rvs Control Dataset (VSAM) to a sequential dataset. The resulted reference dataset may be used as a base for your own application programs (listing or dialog programs) or, in some cases, printed as it is.

The reference dataset contains either complete images or two different edited records of the selected Control dataset records.

The output may be also in a ouput parameter area with data from one Control Dataset record at a time.

The program receives search arguments for a (group of) transmission(s) to be obtained. The rvs Control Dataset is searched for transmissions which satisfy the search arguments and the results are presented for the caller.

Input

Input may be given in either of the two ways:

- As an call parameter input area originating from JCL EXEC statement, command processor CALL or call from another application program according to the convention of JCL EXEC statement or command processor execution parameter area expression presenting exactly one set of search arguments. The length if this parameter area may be zero (no input via input INPARM) or 2-256. The existence, length and contents of area are checked and when it defines a set of search arguments, it will be used rather than the dataset input, even even though an input dataset would be available.

- As an input from a dataset containing one or more sets of search arguments. Even in this case parameter input area may be present to define input and output dataset names and output format. Dataset input may also include comment records placed between any two sets of search arguments. The comments are recognized by an asterisk (*) in position one followed by at least one blank character.

There are two valid formats of input records (either in parameter area or dataset input):

- In keyword format the search arguments are given selectively identified by the keywords described below. A set of search arguments begins with text STATUS=, ST=, REFNR=, RNR=, TYPE= or TYP= and occupies the whole parameter input area or one or more consequent physical input dataset records which are considered to form one logical record. The keyword parameters are separated by a comma (,) and/or one or more blanks. A single keyword with its value cannot be spanned to the next record. The eight last positions of the physical record are ignored (supposed to contain record sequence number). Keyword format INPARM is also used to identify the input and output datasets and output format.

- In fixed format the search arguments are given according to the layout described below. A set of search arguments in this format occupies exactly one physical record. The data length of this format is 112 bytes and the records are supposed to have no sequence field.

Both formats may be given from any source and also mixed in dataset input.

NOTE:
If mixing of these two different formats is desired (e.g. by concatenating input files), the LRECL definition have to be taken care of (the fixed format requires LRECL of at least 112 while for the keyword format 80 is sufficient).

The DD-name of the input dataset is set to the value of the INFILE keyword parameter or defaulted to SYSIN if the parameter input area is omitted or it contains no valid set of search arguments.

Keyword format input parameters:

INFILE=ddname Input file DD-name, 1-8 characters (optional)

This keyword parameter identifies the DD-name of the dataset which contains the input. Default is SYSIN if there is no parameter input area at all or the value of this keyword is omitted or blank. When this parameter is defined, all keywords other than OUTFILE and FMT should be omitted. This parameter is valid only in call parameter input. The synonyme of this parameter is INF.

OUTFILE=ddname Output file DD-name, 1-8 characters (optional)

This keyword parameter identifies the DD-name of the dataset on which the output will be written. Default is SYSPRINT if the parameter output area is omitted or the input is read from a dataset. The given value must not be SYSOUT.

If the dataset is explicitely or implicitely defined as output dataset and the output is written in keyword format (see below), it will also contain error and informational messages unless the dataset SYSOUT or dataset for WTO-messages is available.

When this parameter is defined, all keywords other than INFILE and FMT should be omitted.
This parameter is valid only in call parameter input. The synonyme of this parameter is OUTF.

FMT=format Output format, 2 characters (optional)

This keyword parameter defines, if needed, the format of the output. The valid values of format are:

FX The output is written in fixed format records (see below) which are derived from the accessed rvs Control Dataset records.

KD The output is written as (truncated) rvs Control Dataset records with no editing. If output goes to parameter output area, the whole record is moved. If output goes to a dataset, the records may be truncated to the record length of the output file.

KW The output is written in keyword format records which are edited from the accessed rvs Control Dataset records. The data length of the records is 80 bytes.

This parameter may be given only in call parameter input.

STATUS=status Status of transmission, 1 character (optional)

The status of the transmissions to be queried. The value is a single nonblank character according to the list below. This parameter must be given if TYPE is not defined but is exclusive with TYPE.

Valid values:

S Dataset(s) sent (successfully completed or not).

R Dataset(s) received (successfully completed or not).

D Dataset(s) due to be sent or received.

NOTE:
- This parameter is applicable only in keyword format input record.
- This parameter may also be expressed by TYPE=*S or TYPE=*R or TYPE=D*.

Synonyme of this keyword is ST.

TYPE=type Type of the record, 2 characters (optional)

The record type of the control dataset records to be queried. The value is one two characters long code according to the list below. Also a list of max twelve codes enclosed in parentheses and separated with commas may be given.
This parameter must be given if STATUS is not defined but is is exclusive with STATUS.

AS	Active still due to be sent.
AR	Active still due to be received.
AN	Active end-to-end response in relais station.
A*	AS+AR.
BS	Terminated send transmission.
BR	Terminated receive transmission.
B*	BS+BR.
CS	Successfully completed send transmission.
CR	Successfully completed receive transmission.
C*	CS+CR.
DS	Active, not yet started send transmission.
DR	Active, not yet started receive transmission.
D*	DS+DR.
RS	Resident send transmission.
RR	Resident receive transmission.
R*	RS+RR.
JA	Job active.
JC	Job completed.
J*	JA+JC.
*S	=AS+CS.
*R	=AR+CR.
**	Any record type.

Examples :

TYPE=B*	All abended transmissions
TYPE=(AR,AS,C*)	active receive + send transmissions and all completed transmissions

Synonyme of this keyword is TYP.

SID=sid Station identification, 1-3 characters (optional)

The station identification of the remote station (sid). If the searched sid is exactly one or two characters long, the value should be followed by a dash (-); otherwise the given sid of one or two characters will be considered as generic. A generic sid may also be an expression with an asterisk (*) at the end of the sid indicating the wildcard character(s).

Synonyme of this keyword is ORT.

DSNAME=dsname Dataset name with or without member name (optional)
DSNAME=dsname(member)

Name of the searched dataset. If the given dataset name is shorter than the maximum of 44 characters, it will be considered as a generic one. A generic dataset name may also be indicated by an asterisk (*) at the end of the dsname part of the value to indicate the wildcard character(s). If the searched dataset name should be of the same length as the given dsname part of the value of 43 characters or shorter, a dash (-) should follow the dsname.

If the dataset is partitioned and a member name is given, it must be enclosed in parentheses and follow immediately the dataset name as described above. The maximum length of the member name is 8 characters and the maximum length of the entire value is 54 characters. Generic member names are not recognized.

QTM=yydddhhmmsst Queuing date and time, 1-12 numeric characters (optional)

Queuing date and time of the transmissions to be queried. yy is year, ddd day number, hh hours, mm minutes, ss seconds and t tenths of second. The value may also be truncated to the right to define a time interval, when only the given digits are considered as (part of) search argument.

If this keyword is given, QDATE, QDAY or QTIME must be omitted in the same set of search arguments.

Examples :

QTM=9413811	looks for transmissions queued from 11:00 to 11:59 in 18.05.1994
QTM=92138112341	looks for transmissions queued at 11:23:41 in 17.05.1992

QDATE=date1-date2 Queuing date(s), (optional)
QDATE=*-nrofdays

One or two dates to limit the queuing time frame in days of the queried transmission(s). The explicitely given dates have format yy.ddd or simply ddd but even the more natural and self-explanatory form of dates dd.mm.yy is allowed. Two given dates must be separated by a dash (-) and be both in either 'day-number' or 'natural' format.

yy = year, 2 digits
ddd = day number within the year, 3 digits
mm = month, 2 digits
dd = day within the month, 2 digits

In explicitely given date definitions the given 'date1' must not be later than the given 'date2'.

The given 'date2' may be omitted and will then be defaulted equal to the 'date1'.

If in 'ddd' format the given day number is greater than the current machine day number, the year is defaulted to the previous one.

Examples (current machine date is 94.138, that is 18.05.94):

expression	equals to interval
QDATE=065	06.03.94 - 06.03.94
QDATE=140-365	20.05.93 - 31.12.93
QDATE=139-108	19.05.93 - 18.05.94
QDATE=94.110-365	20.05.94 - 31.12.94

If there is an asterisk (*) in place of 'date1', the dates are defaulted to the current machine date. If the asterisk is followed by a minus (-) sign 'nrofdays' (number of days, one to three digits), the 'date1' is replaced by the date given number of days before the current machine date.

Examples (current machine date is 94.108, that is 18.05.94):

expression	equals to interval
QDATE=*	18.05.94 - 18.05.94
QDATE=*-3	15.05.94 - 18.05.94
QDATE=*-240	11.08.93 - 18.05.94

If this keyword is given, QTM or QDAY must be omitted in the same set of search arguments.

QDAY=date-nrofdays **Queuing date(s), (optional)**
QDAY=date+nrofdays
QDAY=*-nrofdays

One date and a number of days to limit the queuing time interval in days of the queried transmission(s).

The explicitely given date has format yy.ddd or simply ddd or even the more natural and self-explanatory form of date dd.mm.yy. The nrofdays (number of days) is separated by a minus (-) or a plus (+) to indicate the other limiting date nrofdays before or after the given date.

yy = year, 2 digits
ddd = day number within the year, 3 digits
mm = month, 2 digits
dd = day within the month, 2 digits
nrofdays= number of days, 1-3 digits

If in 'ddd' format the given day number is greater than the current machine day number, the year is defaulted to the previous one.

Examples (current machine date is 94.138, that is 18.05.94):

expression	equals to interval
QDAY=065	06.03.94 - 06.03.94
QDAY=140+365	20.05.93 - 19.05.94
QDAY=138-108	18.05.93 - 31.12.93
QDAY=94.138-365	18.05.93 - 18.05.94

If there is an asterisk (*) in place of 'date', it is defaulted to the current machine date.

Examples (current machine date is 94.108, that is 18.05.94):

expression	equals to interval
QDAY=*	18.05.94 - 18.05.94
QDAY=*-3	15.05.94 - 18.05.94
QDAY=*-240	11.08.93 - 18.05.94

If this keyword is given, QDATE or QTM must be omitted in the same set of search arguments.

QTIME=time1-time2 Queuing time(s) of day, (optional)
QTIME=-time2
QTIME=time1-
QTIME=*-hh.mm

One or two times of day to limit the queuing time frame of the queried transmission(s). The explicitely given times have the format hh.mm, where hh = hours and mm = minutes (24 hour clock) and, if the second time is given, they are separated by a dash (-). An omitted first time of day is defaulted to 00:00 and second one to 24:00.

If the first time expression is an asterisk (*), it is replaced by 00:00 and the second time is defaulted to the current machine time. If the asterisk is followed by a second time expression, the first time is calculated to a time given number of hours and minutes before the machine time and the second time is defaulted to the machine time. Yet the time cannot by this way span to the previous day.

The second time expressed by an asterisk will be replaced by the current machine time.

If this keyword is given, QTM must be omitted in the same set of search arguments.

Synonyme to this keyword is QTOD.

TTM=yydddhhmmsst Transmit date and time, 1-12 numeric characters (optional)

Transmit date and time of the transmissions to be queried.

The format and the rules are analog to the ones of QTM.

If this keyword is given, TDATE, TDAY or TTIME must be omitted in the same set of search arguments.

TDATE=date1-date2 Transmit date(s), (optional)
TDATE=*-nrofdays

One or two dates to limit the transmit time frame in days of the queried transmission(s).

The format and the rules are analog to the ones of QDATE.

If this keyword is given, TTM or TDAY must be omitted in the same set of search arguments.

TDAY=date-nrofdays **Transmit date(s), (optional)**
TDAY=date+nrofdays
TDAY=*-nrofdays

One date and a number of days to limit the transmit time interval in days of the queried transmission(s).

The format and the rules are analog to the ones of QDAY.

If this keyword is given, TTM or TDATE must be omitted.

Keyword DAY is a synonyme to TDAY.

TTIME=time1-time2 **Transmit time(s) of day, (optional)**
TTIME=-time2
TTIME=time1-
TTIME=*-hh.mm

One or two times of day to limit the transmit time frame of the queried transmission(s).

The format and the rules are analog to the ones of QTIME.

If this keyword is given, TTM must be omitted in the same set of search arguments.

Synonyme to this keyword is TTOD.

NRSYN=number **Synonyme order number, six numeric characters (optional)**

The number of the expected record in key sequence when the search arguments give a multiple result. This parameter may be used to access other than the first record to satisfy the search arguments which are not possible or wanted to make unique. Default 000001.

This parameter is ignored in dataset output.

Note:
When the search is done with parameter NRSYN, the result may yet be the previous or even an earlier found record due to newcome records which match with the search arguments.

Synonyme of this keyword NRS.

Layout of the fixed format input

columns	length	Type	description
0-1	2	C	Record type
0	1	C	transmission status (A/B/C/D/*)
1	1	C	transmission direction (R/S/*)
2-4	3	a	Station Identification
5-9	5		Reserved
10-63	54	c	Name of the transmitted partitioned dataset with member name enclosed in parentheses
10-53	44	C	Name of the transmitted dataset
54-63	10	C	Reserved (blanks)

64-83	20		Transmission date and time of day interval expressions
64-75	12		Transmission date interval
64-69	6	A	'from' date yyddd/bbddd/xxxx*/bbbbb
70-75	6	A	'to' date yyddd/bbddd/bbbbb/bbddd/bbbdd/bbbbd
76-83	8		Transmission time of day interval
76-79	4	A	'from' time hhmm/bbbb/xxx
80-83	4	A	'to' time hhmm/bbbb
64-71	8		Blanks if following item is given
72-83	12	A	Transmission date and time yydddhhmmsst
84-103	20	A	Queuing date and time of day interval expressions
84-93	12		Queuing date interval
84-89	6		'from' date yyddd/bbddd/xxxx*/bbbbb
90-95	6	A	'to' date yyddd/bbddd/bbbbb/bbddd/bbbdd/bbbbd
96-103	8		Queuing time of day interval
96-99	4	A	'from' time hhmm/bbbb/xxx-
100-103	4	A	'to' time hhmm/bbbb
84-81	8		Blanks if following item is given
92-103	12	A	Queuing date and time yydddhhmmsst
104-109	6	A	Reference number
110-115	6	N	Synonyme sequence number

Legend: Type: A = alphanumeric, left justified, padded with blanks
N = numeric, padded with zeros at the left
C = character, left justified

Symbols: x = any character
b = blank
yy = year 00-99
ddd = day number 001-366, number of days 0-999
hh = hours 00-24
mm = minutes 00-59
ss = seconds 00-59
t = tenths of a second 0-9

Using the program DF076A

Batch Job (Example)

Run the Reference Utility in batch using the following sample job :

```
//A        JOB
/*********************************************************************
/***           R V S   R E F E R E N C E   T A B L E                 **
/***   NECESSARY PARAMETER :  NONE                                   **
/***   OPTIONAL PARAMETERS :  INFILE=..,OUTFILE=..,FMT=..,           **
/***                          STATUS=..,TYPE=..,SID=..,              **
/***                          DSNAME=..,REFNR=..,NRSYN=..,           **
/***                          QTM=..,QDATE=..,QDAY..,QTIME=..,       **
/***                          TTM=..,TDATE=..,TDAY..,TTIME=..,       **
/*********************************************************************
//REFJOB  EXEC PGM=DF076A,PARM='...'
```

```
//STEPLIB  DD  DSN=RVS.LOAD,DISP=SHR
//KD       DD  DSN=RVS.KD,DISP=SHR
//SYSPRINT DD  DSN=........,DISP=(NEW,CATLG,DELETE),
//             UNIT=SYSDA,SPACE=(CYL,(1,1))
//SYSOUT   DD  SYSOUT=*
//SYSIN    DD  *
```

Note:
File SYSIN is not needed if the necessary search arguments are given in the parameter area in EXEC statement.

The program is callable from another application program as well (e.g. assembler):

```
CALL DF076A,(INPARM,OUTPARM,GENPARM,SYSTDCB),VL
```

INPARM is a parameter area to contain either keyword parameters or fixed format input record to the program.

OUTPARM is a parameter area to contain the response from the program after the execution. This area must be large enough for the output; otherwise the result is unpredictable.

GENPARM is the rvs general parameter area when it is available.

SYSTDCB is an area which contains an opened DCB for SYSOUT dataset.

Note:
- One or more call parameters may be omitted but if OUTPARM is defined, INPARM must also be defined.
- Two or more call parameters are applicable only at a call from another application program.

Further the program is callable from the command processor (TSO):

```
XCALL CALL 'DF076A' '...'
```

Process

The input, output and formats are determined. If the search arguments are read from a dataset, it is opened. If the output is written to a dataset, it is opened. An effort is made to access the rvs SYSWTO dataset or alternatively to open dataset SYSOUT.

The input is read and analyzed one set of search arguments at a time. If the input is a dataset, both formats (keyword and fixed) may be mixed provided that the record length is sufficient.

The Control Dataset is searched for records to satisfy the given search arguments using a key which is built as far as possible of the given information. The rest of the search arguments are matched by the program code.

If no meaningful key can be built from the search arguments, the search is made with sequential read through the dataset.

The result is presented to the caller and the return code is set.

Output

The output from the program is written either to the output parameter area if it is provided or to the output dataset. If the output is written to the output parameter area, it is the caller's responsibility to define the length of the area sufficient to contain the output record.

The error and informational messages are written preferably to the SYSWTO dataset amongst the other similar messages. If it is not possible, the output is written to SYSOUT or output dataset.

If there is a parameter area for SYSOUT dataset DCB, the dataset should be opened. If the parameter area is not provided, an attempt is made to open the SYSOUT as well. In either way, the error and informational messages are written to this dataset. If the output is written to a dataset in keyword format and no SYSOUT dataset is available, the messages are written to the output dataset. If no access to SYSOUT dataset is possible and the output is not written in keyword format, the writing of error and informational messages is suppressed.

If OUTPARM is defined, the input is expected from INPARM as well.

If the output datasets are allocated as new and DCB information is not complete, the program makes following defaultings:
- For output dataset in:
  - keyword format LRECL=80, BLKSIZE=80 and RECFM=FBA,
  - fixed format LRECL=512, BLKSIZE=7680 and RECFM=FB,
  - KD record format LRECL=590, BLKSIZE=6490 and RECFM=FB.
- For SYSOUT dataset LRECL=80, BLKSIZE=80, RECFM=FBA and MACRF=PL.

For both output datasets DSORG=PS is mandatory.

If the output dataset DCB information is provided from any source to the program, following should be noted:
- M or A control character may be specified in keyword format output.
- LRECL must be 80 or higher and it should be equal to or higher than the respective default for each format above, otherwise the output records are truncated.

For SYSOUT dataset following should be noted:
- M or A control character may be specified.
- LRECL must be 80 or higher.
- If the DCB is provided as a parameter, also MACRF=PM may be defined.

There are three different output formats:

- Keyword format — Some information from the Control Dataset records records is edited to a printable form.
- Control Dataset record format — The records retrieved from the Control Dataset are presented unedited.
- Fixed format — Most of the information from the Control Dataset records is edited to a printable form.

Keyword format output

This format of output is self-explanatory.

TYPE Indication of the status and direction of the transmission.

SID Remote station identification.

DSNAME The dataset name of the dataset which will be or has been been transmitted. Member name, when applicable in parentheses.

SEQNR Number of (so far) found records which satisfy the search arguments, six digits. In fact a sequence number.

QDATE Queuing date of the transmission.

QTIME Queuing time of the transmission.

TDATE Transmission start date.

TTIME Transmission start time.

Example:

```
SEQNR=000001   TYPE=AS   SID=RF2
DSNAME=ENK.ZNEEBS.ECIA
QDATE=94.125   QTIME=08:13:06.0   TDATE=94.125   TTIME=09:39:15.7
```

Control Dataset record format output

Also this format is self-explanatory. The output contains unprintable characters and should thus be used only for further processing.

Layout of this format is identical to the one of Control Dataset record.

Fixed format output

This format is also mainly for further processing but does not contain unprintable characters (and not all the information from the Control Dataset record).

Layout of the fixed format Reference Dataset output

Columns	Length	Type	Description
0-1	2 bytes	C	Transmissionstate (recordtype) AR Active Receive Entry AS Active Send Entry BR Break Entry, Receive BS Break Entry, Send CR Complete Receive Entry CS Complete Send Entries RR Resident Receive Entry
2	1 byte	C	Response not yet received (Dataset is sent completely, but

			response has not yet been received)
3-5	3 bytes	A	rvs Station Identification of the chosen station.
6-10	5 bytes		Reserved
11-54	44 bytes	A	Name of transmitted Dataset (Dataset name used between the local and the remote station. It may (but need not to) be the physical dsname.)
55-62	8 bytes	A	Name of transmitted Dataset Member (Name of a member of the above mentioned dataset.)
63-65	3 bytes	A	First Station (Station Identification of the origin station.
66-70	5 bytes		Reserved)
71-73	3 bytes	A	Next Station (Station Identification of the next connected station. May be (but need not to be) the final station.)
74-78	5 bytes		Reserved
79-81	3 bytes	A	Station Identification of the Final Station
82-86	5 bytes		Reserved
87	1 byte	C	High Level Response Y High Level Response received from the remote station. N High Level Response requested, but not received.
88-131	44 bytes	A	Origin Datasetname/New Datasetname Note : This field is only filled if the rename function has been used. Dataset has been received (AR,BR,CR) --> New Name Dataset has been sent (AS,BS,CS) --> Origin Name
132-139	8 bytes	A	Origin Membername/New Membername Note : This field is only filled if the rename function has been used. Dataset has been received (AR,BR,CR) --> New Name Dataset has been sent (AS,BS,CS) --> Origin Name
140-153	14 bytes	N	Queuing Date and Time Format : YYYYDDDHHMMSST YYYY year DDD day HH daytime (hours) MM daytime (minutes) SS daytime (seconds) T 1/10 seconds
154-167	14 bytes	N	Transmission Start Date and Time Format : YYYYDDDHHMMSST (see Queuing Time)
168-181	14 bytes	N	Transmission End Date and Time Format : YYYYDDDHHMMSST (see Queuing Time)
182	1 byte	C	Status H Queued dataset is in hold status C Transmission has been cancelled by operator D AS-Entry has been deleted by operator/user
183	1 byte	C	Dimension R Number of transmitted data is counted in 'records' B Number of transmitted data is counted in 'blocks'
184-193	10 bytes	N	Number of Tranmsitted Data (blocks/records)
194	1 byte		Reserved
195-204	10 bytes	N	Number of Transmitted Bytes (compressed) For values bigger than 9999999999 use extended format below
205	1 byte		Reserved

206-215	10 bytes	N	Number of Transmitted Bytes (uncompressed) For values bigger than 9999999999 use extended format below
216	1 byte	C	Multi Volume Dataset M Dataset is a multi volume dataset
217-222	6 bytes	A	Volume Number Disk Number of first volume if multi volume dataset
223-228	6 bytes	A	Volume Number Tape
229	1 byte	C	Kind of Error U User Abend Code S System Abend Code A Allocation Error
230-237	8 bytes	A	Error Code
238-242	5 bytes	N	Logical Record Length in bytes
243-247	5 bytes	N	Blocksize in bytes
248	1 byte	C	Record Format F fixed record length V variable record length U undefined record length
249	1 byte	C	Resident Receive Entry or Remote Options R Resident Receive Entry found and used I Resident Receive Entry ignored because of exit DFUX001 O Remote Options of sender used
250	3 bytes		Reserved
253	1 byte	C	Dataset Organization P partitioned Dataset S sequential Dataset
254-260	7 bytes	A	Accounting Number
261	1 byte	C	Disposition K keep C catalog U uncatalog D delete
262	1 byte	C	Action after Receiving E write event to a job scheduling system specified F a job submit failed after reception of a data set J job submit after reception of a data set specified T copy job 'disk - tape' has been started S copy job 'disk - sysoutqueue' has been started X the writing of an event to a job sched system failed
263	1 byte	A	Sysout Class
264-307	44 bytes	A	Name of Job Dataset or Event Resource Name (Dataset name of a PDS containing a job to be started by rvs after receiving or Resource name of an event which has been written (indicated by an 'E' in column 262))
308-315	8 bytes	A	Name of Job Dataset Member (Name of the PDS member containing a job to be started by rvs after receiving.)
316-323	8 bytes	A	Jobname, name of the job to be started after receiving.
324	1 byte	A	Dataset could not be cataloged N dataset could not be cataloged R existing (and cataloged) dataset has been replaced and could not be cataloged a second time.
325-332	8 bytes	A	RACF-userid for deleting entry (If this record has been changed (for example: a send request has been deleted) the

			RACF userid of the user will be issued in this field.)
333-340	8 bytes	A	Name of delete job (If this record has been changed by a job (for example: a send request has been deleted), the jobname will be issued in this field.)
341-343	3 bytes	A	Number of restarts Number of attempts to restart the transmission.
344-351	8 bytes	A	RACF-userid of user(job) who created this entry.
352-359	8 bytes	A	Jobname of job(user) who created this entry.
360-362	3 bytes	A	Line or subchannel name of BSC connection
363-365	3 bytes	N	Autodial count (number of automatic dial attempts that preceded this transmission)
366	1 byte	C	Connection type A Automatic Dial
367	1 byte	C	Processing options in RR-entry G GDG processing B date- and timestamp processing T timestamp processing D datestamp processing R REPLACE of dataset
368-381	14 bytes	N	High Level Response Time Date and time of reception at the final receiver Format : YYYYDDDHHMMSST (see Queuing Time)
382	1 byte	C	Indication for code translation: Blank no code translation requested R code translation rejected, code table not found T code translation successfully executed
383-390	8 bytes	C	Name of code translation table
391-398	8 bytes	C	Name of symbolic disk unit group
399-405	7 bytes	C	Expiration Date. Format: *+dd (dd=number of days) or fixed date YYYYDDD (year, date)
406-413	8 bytes	C	SMS management class
414-421	8 bytes	C	SMS storage class
422-429	8 bytes	C	SMS data class
430-436	7 bytes	N	Earliest transmission date Format : YYYYDDD YYYY year DDD day
437-443	7 bytes	N	Earliest transmission time Format : HHMMSST HH daytime (hours) MM daytime (minutes) SS daytime (seconds) T 1/10 seconds
444-459	16 bytes	N	Number of Transmitted Bytes (compressed). Extended format (up to 15 digits)
460-475	16 bytes	N	Number of Transmitted Bytes (uncompressed). Extended format (up to 15 digits)
476-511	36 bytes	C	Reserved (blank)

Legend :

A = alphanumeric, left justified
N = numeric, right justified
C = character, left justified

Return codes, reason codes

Return code is returned in register 15 and reason code in register 0 to the caller. Additionally they are printed with an explaining message in the SYSOUT dataset or in the output dataset if the output is in keyword format.

Return codes and their meanings:

0 The search has been successfully executed; the number of matching records is exactly one.

4 The search has been successfully executed; the number of matching records is two or more.

8 The search has been successfully executed; the number of matching records is zero.

12 Logical error(s) in parameter input area or in (some of) input dataset search argument(s). The execution of the program has been continued at the next set of search arguments.

16 Severe errors. The execution of the program has been terminated.

Reason codes:

00 Parameter record missing in the Control Dataset.

04 Read error in the Control Dataset.

08 Invalid set of search arguments, no start found.

12 Unidentified keyword.

16 Illegal search argument value.

20 Invalid search argument value length.

24 Conflicting search arguments.

28 Syntax error in search arguments.

Abend codes:

760 Invalid length of parameter input area.

761 Parameter output area defined, no parameter input area.

762 Input/output dataset needed but could not be opened.

769 Illegal output dataset DCB parameters.

This page will be intentionally empty.

G. Using the 'Remote Operating Function'

The 'Remote Operating Function' allows to perform rvs operating from any 3270 screen. After logon to the rvs monitor, all rvs commands may be entered from the screen, except commands of the form 'f-rvs', for example 'P-rvs'. Additional, all rvs messages which are displayed on console will be sent to the screen.
The following sections describe all details for the use of this function.

Layout of the 3270 screen when using the remote operating function

rvs assumes to work with a screen with 24 rows and 80 columns. After an SNA session to rvs has been established, the screen will be cleared.

The first row is always used as an input field. If any inputdata are entered (for example rvs commands), the input data must start in column 1.

The second row remains blank.

All other rows are used for display of rvs messages. Writing of messages to these rows is done in a wrap arround mode. The last displayed message is always followed by a line consisting of characters "-".

All rvs messages which are displayed on the screen are preceeded by the sequence ")sid", where "sid" denotes the rvs station name of the local rvs installation. In some cases, the 7th byte of the rvs message identifier is changed to the character "Q", for example DF3000I is changed to DF3000Q.

Logon from a 3270 screen to the rvs monitor

A logon request to rvs is initiated if the sequence

```
LOGON APPLID(name) DATA(OPER)
```

is entered from the screen. "name" denotes the application id which is used for this function. The application id must be defined within VTAM, "name" must be the same value as specified within the rvs start parameter "RMOPAPPL".

If the logon request is successful (an SNA session has been established), an initial message will be sent to the screen (this message is starting with the charactes "P rvs ", followed by the release number and the rvs station name of the local rvs installation and some other values). This initial message is followed by the message:

```
)sid ENTER PASSWORD
```

The logon password must now be entered (row 1, column 1). This password is the same as described in the section 'Installation of rvs ISPF panels' within this manual. The password is not displayed on the screen.

If the valid password has been entered, the message

```
)sid LOGON COMPLETE
```

will be displayed and the remote operating function will start working (display of messages, processing of rvs commands, see below).
This session may be stopped at any time if "LOGOFF" is entered in the input field (starting at column 1).

If an invalid password has been entered, the message

```
)sid INVALID PASSWORD, REENTER
```

will be displayed. If four invalid passwords are entered within one sequence the SNA session will be closed by rvs and a new logon is required.

If the logon request is not successful (an SNA session between rvs and the logical unit of the screen could not be established), the following points should be checked in order to determine the reason of this:

- The specified application id of the logon request is invalid or the application id is not defined within VTAM or some cross domain resources are missing or incorrect.
- The application is not active (the rvs monitor is not active or the remote operating control task has not been started (see rvs command "A-RMOP" within the Operation Manual).
- The remote operating function is not defined within rvs, this means the rvs start parameter "RMOPAPPL" has not been specified.
- The maximum number of parallel remote operating sessions is exceeded. Starting with release 2.5, the maximum number of parallel remote operator sessions has been extended from 1 to 8 sessions.

Entering rvs commands from the screen

If the logon procedure to the rvs monitor is complete, all rvs commands may be entered from the screen, except commands of the form 'f-rvs', for example 'P-rvs'.
The syntax of the rvs commands is the same as described within the rvs Operations Manual, but all commands must be preceeded by the character "$", for example "$A-094" must be entered if the BSC line (subchannel 094) shall be activated.
There are some special commands which are valid only in conjunction with the remote operating function (if entered from the screen):

$OP ON — Initiates the function to process rvs commands (this command is executed automatically after logon processing, it must be entered only if the command "$OP OFF" has been entered before).

$RMSG ON — Initiates the function to display rvs messages on the screen (this command is executed automatically after logon processing, it must be entered only if the command "$RMSG OFF" has been entered before).

$OP OFF — Stops the function to process rvs commands which are entered from the screen and stops display of rvs messages on the screen. If this command has been entered and processing of commands (display of messages) shall be reinitialized, both commands ($OP ON and $RMSG ON) must be entered.

$RMSG OFF — Stops the function to display rvs messages on the screen. To reinitiate this function, the command $RMSG ON must be entered.

$RMSG ONP — Same as command $RMSG ON. Additional, all "print only" messages (messages which are not displayed on console but only in the rvs job log) will be displayed on the screen. To stop display of "print only" messages (but not display of others), the commands $RMSG OFF and $RMSG ON must be entered.

LOGOFF	Terminates the remote operating session.
PF1-KEY	Pressing of PF1 on the 3270 keyboard results in stopping of message display on the screen (same as command $RMSG OFF). But in difference to the $RMSG OFF command, reinitiating of the message display function will be done automatically if any input data are entered from the screen.
PF2-PF11 and PF13-PF24	Pressing of PF2 - PF11 or PF13 - PF24 on the 3270 keyboard simulatet command entry. The processing is the same as if you hat typed the character string in the command line and pressed the ENTER key (attention - § commands are immediate commands).
PF12-KEY	Repeatedly entering PF12 causes the commands most recently entered from the command field, to be displayed on the command line. The commands are displayed one at time, in reverse sequence to which they were entered (last-in, first-out). This allows you to eaisily recall a command for resubmission from command field. You can edit the command before entering it if you wish.
PFxx	Changing the default PFK settings (PFKEYS member in TABLES file) temporary. Permanent changes you must do by EDIT command of TSO or ISPF.
PFL	Display all PF keys settings.
PFLxx	Display setting of PF key xx.
PFLxxyy	Display settings of PF keys xx to yy.
PFL$	Display settings all $ commands (indirect commands).
PFL§	Display settings all § commands (direct commands).
PFxx %	Reset setting of PF key xx.

This page will be intentionally empty.

H. rvsMVS Tables

H.1. rvsMVS Program Profile Table (only used for the BSC component)

The internal Program Profile Table contains a number of standard entries corresponding to the supported FTP's. In addition to these fixed profiles, some special profiles can be added using the dataset RVS.TABLES(PROGPROF).
Special program profiles are necessary for example for BTAM leased lines.

The name of the user defined profile must be defined within the rvs Stations Table by the parameter 'PPROF':
PPROF=ppnamewith ppname = 3 char.
The name of the program profile is free selectable but must not start with a '$'.

A program profile is assigned to each entry (station or line) of the stations table which is defined to use BTAM/BSC line(s). This assignment is done during start of the rvs monitor.

A program profile, which is assigned to a line entry of the stations table, is used only during activation of the line (command "A lll", see Operation Manual). The only information of the program profile which is used in this case is

- the name of the line control program (column 5 - 12) and
- the definition how the identification phase shall be done after a line connection is established (column 72).

All other information will be taken from the program profile, which is assigned to the stations entry for the remote station (at the time when this other information is needed, rvs already knows the station id of the remote station because the identification phase is already complete).

Each line of the program profile table defines one program profile. Lines with a "*" in column 1 are treated as comment. The following fields are included within a program profile:

Column	Description
1 - 3	Name of the program profile (alphanumeric, free selectable). This name is used only for reference to the rvs Stations Table, see parameter "PROGPROF". The names of program profiles must be unique within this table. For test purposes, the program profile for station "sid" may be changed within the rvs monitor by entering the command "F sid,PP=prf", where "prf" is the name of another program profile of the profile table (see Operations Manual).
5 - 12	Module name of the line control program. The specified module name is only used during activation of a BSC line (command "A-lll", "A sid" or "A sid,lll", see Operations Manual). "DF056B00" must be specified for leased lines and and for stations connected via a leased line. Additional, this value must be specified for • switched lines if at least one of the remote stations (using this line) has installed rvs-DOS Release 2. • remote stations which have installed rvs-DOS Release 2. "DF055A00" must be specified in all other cases. Remark: Module DF055A00 includes support for autodial and password exchange functions, module DF056B00 does not include this support. Thus the following restriction should be noticed:

	A switched line defined as an autodial device (see description of the rvs Stations Table in this manual), cannot be used for remote stations which have installed rvs-DOS Release 2. This problem can be solved if the remote station installes rvs-DOS Release 3.
14 - 21	Module name of the send routine. Module name for communication with rvsMVS or rvsDOS: DF034K00 Module name for communication with rvsRPG: DF034L00 Module name for all other communications: DF034M00
23 - 30	Module name of the receive routine. Module name for communication with rvsMVS or rvsDOS: DF035K00 Module name for communication with rvsRPG: DF035L00 Module name for all other communications: DF035M00
32 - 39	Module name of the transmission control routine. "DF057B00" must always be specified.
41 - 48	Module name of the termination routine. "DF059C00" must always be specified.
68	Definition of the transmission protocol. The following values may be specified: C'0' rvs internal protocol, used if the remote station has installed rvsMVS or rvs-DOS Rel.2. C'6' rvs standard procedure (specifications of this protocol are described in the rvs Interface Description, protocol "VW-FTP B1.0"). This protocol does not support restart, each data record is transmitted separate on the line (no blocking). C'8' Transmission protocol used for a special software on Siemens 330 computers (only VW internal use). C'A' rvs internal protocol, used if the remote station has installed rvs-RPG. C'C' Same as C'6', but transmissions are performed in a blocked transmission mode (see rvs Interface Description, protocol "VW-FTP B1.1"). C'D' Same as C'C', additional the restart function is included (see rvs Interface Description, protocol "VW-FTP B2.1"). C'E' rvs internal protocol, used if the remote station has installed rvs-DOS Rel.3. C'F' File Transfer Protocol as described in recommendation 4914 of VDA (Verband der Automobilindustrie e.V.) C'R' rvs RJE procedure (see rvs Interface Description, protocol "VW-FTP B3.0"). This protocol is quite similar (but not identcally) with the 2780 procedure. C'X' Indication, that all components (functions) of the protocol are specified in columns 73 - 76 of the program profile (see below). The rvs standard procedure with restart (see rvs Interface Description, protocol "VW-FTP B2.0") must be specified in this way, in this case columns 73 - 76 must contain the value C'E060'. <u>Restrictions:</u> If communication with rvs-DOS is defined and the local station is defined as a slave station, the value C'1' must be specified in column 72 (see below).

	The rvs-RJE protocol (value C'R') is supported only in conjunction with the definition of the local station as a master station (see below).
69 - 70	Only for development and test. This field must contain the constant value C'00'.
71	Specification for line and SMF recording. The following values are valid within this field: C'4' switched line with SMF data C'6' switched line without SMF data C'C' leased line with SMF data C'E' leased line without SMF data Remark: rvs creates SMF records if the rvs Start Parameter "SMF=nn" is specified with "nn" not equal zero (see chapter 6.1 of this manual). If "SMF=0" is specified, no SMF recording is done, independent of the value in this column.
72	Specification for identification phase of the transmission. The following values are valid: C'0' definition of the local (own) station as a slave station, the own station identification will be sent in one string together with the BSC control character X'2D'. C'1' definition of the local (own) station as a slave station, the own station identification will be sent within the first text buffer. If the own station shall be defined as a slave station, this value should always be specified. C'2' definition of the local (own) station as a master station, the identification of the remote station is expected in one string together with the BSC control character X'2D'. C'3' definition of the local (own) station as a master station, the identification of the remote station is expected in the first text buffer. Remarks: This value of the program profile defines, which of the two stations (local or remote) has to send its identification first after the line connection (dial) is established. For leased lines the value C'2' should always be specified.
73 - 76	Explicite specification of all components (functions) of the transmission protocol. This field will be ignored unless column 68 contains the value C'X'. The use of this field allows the definition of very special transmission protocols. This may be useful if a connection to another computer shall be established but software or hardware restrictions of the remote station require a modification of one of the rvs standard procedures described in the rvs Interface Description. In case of such a requirement, please consult the software producer (VWAG).
77 - 80	reserved. This field must contain blanks.

The following is an example of a program profile table (included in the rvs Tables dataset, member PROGPROF, on the installation tape).

```
********************* rvs PROGRAM PROFILE TABLE (EXAMPLE) ******************
* COLUMN SCALE
*|||V||||1||||V||||2||||V||||3||||V||||4||||V||||5||||V||||6||||V||||7||||V|
*
* PROFILE1 - SLAVE STATION FOR SWITCHED LINE TO rvsMVS
PP1 DF055A00 DF034K00 DF035K00 DF057B00 DF059C00                     00061
* PROFILE2 - MASTER STATION FOR SWITCHED LINE TO rvs-DOS REL.2
PP2 DF056B00 DF034K00 DF035K00 DF057B00 DF059C00                     00062
* PROFILE3 - MASTER STATION FOR SWITCHED LINE TO rvs-RPG
PP3 DF055A00 DF034L00 DF035L00 DF057B00 DF059C00                     A0062
* PROFILE4 - MASTER STATION FOR SWITCHED LINE TO COMPUTERS
*            USING THE rvs STANDARD PROCEDURE WITHOUT RESTART
PP4 DF055A00 DF034M00 DF035M00 DF057B00 DF059C00                     60062
* PROFILE5 - SLAVE STATION FOR SWITCHED LINE TO COMPUTERS
*            USING THE rvs STANDARD PROCEDURE WITH RESTART
PP5 DF055A00 DF034M00 DF035M00 DF057B00 DF059C00                     X0061E060
* PROFILE6 - SLAVE STATION FOR SWITCHED LINE TO COMPUTERS
*            USING THE 'FILE TRANSFER PROTOCOL' (VDA 4914)
PP6 DF055A00 DF034M00 DF035M00 DF057B00 DF059C00                     F0061
* PROFILE7 - MASTER STATION FOR SWITCHED LINE TO COMPUTERS
*            USING THE 'FILE TRANSFER PROTOCOL' (VDA 4914)
PP7 DF055A00 DF034M00 DF035M00 DF057B00 DF059C00                     F0063
* PROFILE8 - MASTER STATION FOR SWITCHED LINE TO COMPUTERS
*            USING THE 'rvs-RJE PROTOCOL'
PP8 DF055A00 DF034M00 DF035M00 DF057B00 DF059C00                     R0062
* PROFILE9 - MASTER STATION FOR SWITCHED LINE TO rvs-DOS REL.3
PP9 DF055A00 DF034K00 DF035K00 DF057B00 DF059C00                     E0062
* PROFILE0 - LEASED LINE TO rvsMVS OR rvs-DOS REL.2
PP0 DF056B00 DF034K00 DF035K00 DF057B00 DF059C00                     000E2
********************* END OF TABLE ***************************************
```

I. Key Data Utility (Program DF054K)

I.1. Introduction

This document describes the changes for security referred to release level 02.05.05 (rvsMVS).

I.2. rvs Key Data dataset

The rvsMVS Key Data dataset (RVS.KEY.DS) is organized as a VSAM KSDS.

This is a mandatory data set if the rvs installation wants to use the Security Feature. All private and public keys used in a rvs installation have to be stored in the Key Data dataset. This data set is the central information data base for the Security Feature. It works as an interface between the rvs Monitor and rvs Security Administrator which maintains the key management.

Security keys are identified by KEYTYPE, SID and KEYID. KEYTYPE may be PU for public keys or PR for private keys, SID is identical with the rvs parameter SID and KEYID is a hexadecimal character string which makes the key unique in a rvs installation. The key identification KEYID will be generated by the key generation program and is equal for a key pair consisting of a public and private key.

I.3. Maintenance of the key management

I.3.1. Overview

There are some members in the dataset TABLES for maintenance of the key management.
For a description of parameters and DD-statements see chapter I.4

- KEYSDEF - create VSAM key dataset
- KEYSINIT - initialize VSAM key dataset
- KEYSGEN - generate a key pair
- KEYIMPAL - import key pair to the key management
- KEYIMPPU - import public key to the key management
- KEYLIST - list keys from the key management
- KEYEXPRT - export keys from the key management to a sequential file
- KEYIMPRT - import keys from a sequential file to the key management
- KEYDELET - delete key(s) from the key management

I.3.2. Creation of rvs Key Data dataset

The jobs KEYDEF and KEYSINIT can be used to create and initialize the rvs Key Data dataset.

Examples:

```
//A        JOB
//*******************************************************************
//*        CREATE KEY DATA SET
//*******************************************************************
//DEFINE   EXEC  PGM=IDCAMS
//*
//SYSPRINT DD    SYSOUT=*
//SYSIN    DD    *
   DEFINE CLUSTER -
          (NAME(P390A.V2CS.NEW01.KEYS) -
          CYL(3 1) -
```

```
           VOLUME(ELO103) -
           FREESPACE(30 20) -
           KEYS(70 0) -
           SHR(4 3) -
           RECORDSIZE(550 5000) -
           UNIQUE ) -
          DATA -
           (NAME(P390A.V2CS.NEW01.KEYS.DATA) -
           CONTROLINTERVALSIZE(16384)) -
          INDEX -
           (NAME(P390A.V2CS.NEW01.KEYS.INDEX) -
           CONTROLINTERVALSIZE(2048))
/*
//
```

Note:
The IDCAMS parameter "KEYS", "SHAREOPTIONS" and "RECORDSIZE" should not be modified.
Do not change the DD-Name KEYDATA of the initialize step.
In contrast to the Control Data set of rvs there is no Log Data set for the Key Data dataset.

I.3.3. Initialize Key Datasets (VSAM)

D-Statements:

KEYDATA	-	key management dataset (VSAM-Dataset)
SYSPRINT	-	program logfile

```
//A        JOB
//*****************************************************************
//*        initialize key dataset                                 *
//*****************************************************************
//KEYINIT     EXEC PGM=DF079S
//STEPLIB  DD   DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//KEYDATA  DD   DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
//SYSPRINT DD   SYSOUT=*
```

I.3.4. Generate a key pair of your own

The job KEYGEN can be used to create a new key pair.

Example:

```
//A        JOB
//GENKEYS  EXEC  PGM=DF054K,PARM='GENKEYS'
//STEPLIB  DD DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//SYSPRINT DD SYSOUT=*
//KEYDATA  DD DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
//KEYPARAM DD   *
 KSIZE=1024,KPERIOD=12M,                                          *
 KNAME='RVST.V2CS.NEW01.KEY'
/*
```

Note:
For a description of parameters see appendix I.4.1.

I.3.5. Import your own key pair to the key management

The job KEYIMPAL can be used to import your own key pair to the key management. Set UID to your own SID.

Example:

```
//A        JOB
//KEYSIMPT  EXEC  PGM=DF054K,PARM='KEYS'
//STEPLIB  DD  DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//KEYDATA  DD  DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
//KEYPR000 DD  DSN=P390A.V2CS.NEW01.KEY.PR,DISP=SHR
//KEYPU000 DD  DSN=P390A.V2CS.NEW01.KEY.PU,DISP=SHR
//SYSPRINT DD  SYSOUT=*
//KEYPARAM DD  *
UID=LOC,                                                          *
                                                 DDNAME=KEYPR000,NEW
UID=LOC,                                                          *
                                                 DDNAME=KEYPU000,NEW
/*
```

I.3.6. Import a public key of your partner

The job KEYIMPPU can be used to import a key of your partner to the key management.
Set PID to SID of your partner.

Example:

```
//A        JOB
//KEYIMPT   EXEC  PGM=DF054K,PARM='KEYS'
//STEPLIB  DD  DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//KEYDATA  DD  DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
//KEYPU000 DD  DSN=P390A.V2CS.NEW01.KEY.PU,DISP=SHR
//SYSPRINT DD  SYSOUT=*
//KEYPARAM DD  *
PID=R11,                                                                *
                                                 DDNAME=KEYPU000,NEW
/*
```

I.3.7. List all keys of the key management

The job KEYLIST can be used to list all keys from the key management.

Example:

```
//A        JOB
//KEYLIST  EXEC  PGM=DF054K,PARM='LIST,ALL'
//STEPLIB  DD  DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//KEYDATA  DD  DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
//SYSPRINT DD  SYSOUT=*
```

I.3.8. Export all keys from the key management to a sequential file

The job KEYEXPRT can be used to export all keys from the key management to a sequential file. (see KEYIMPRT, too)

Example:

```
//A        JOB
//KEYEXPT  EXEC  PGM=DF054K,PARM='EXPT,ALL'
```

```
//STEPLIB  DD DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//SYSPRINT DD SYSOUT=*
//KEYPRINT DD DSN=P390A.KEYPRINT,DISP=SHR
//KEYDATA  DD DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
```

I.3.9. Import keys from a sequential file to the key management

The job KEYIMPRT can be used to import keys from a sequential file to the key management. (see KEYEXPRT, too)

Example:

```
//A        JOB
//KEYSIMPT EXEC  PGM=DF054K,PARM='IMPT,ALL'
//STEPLIB  DD DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//SYSPRINT DD SYSOUT=*
//KEYIMPRT DD DSN=P390A.KEYPRINT,DISP=SHR
//KEYDATA  DD DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
```

I.3.10. Delete key from the key management

The job KEYDELET can be used to delete key(s) from the key management.

Example:

```
//A        JOB
//KEYDEL  EXEC  PGM=DF054K,PARM='ADMN'
//STEPLIB  DD DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//SYSPRINT DD SYSOUT=*
//KEYDATA  DD DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
//KEYPARAM DD   *
KEYID='XXXXXXXX',DEL
/*
```

This job remove this key from the key management.

```
Info:       Version:        1  (0x01)
            Serial Number:  1  (0x01)
            Mode:           1  (0x01)
            Created At:     Jul 10 10:32:27 2003 UTC
            Created By:     unknown
            Owner:          unknown
            KeyPair ID:     a2:74:f0:96

Validity:   Not Before:    Jul 10 10:32:25 2003 UTC
            Not After:     Oct 10 10:32:25 2003 UTC

Subject Key Info:
            Public Key Algorithm: rsaEncryption
            Exponent:       65537 (0x10001)
            KeyData:
                    ac:a4:30:f7:7c:9f:47:cf:0d:1d:9b:ce:66:fa:4e:b9:
                    80:9a:c4:83:fa:5e:93:97:04:2f:8c:0f:b8:5b:d3:cb:
                    fb:90:b3:6d:51:a4:6d:6a:65:52:9d:84:4e:68:fa:a1:
                    7a:fe:22:5d:d9:5f:e2:2a:b3:35:3d:4c:c5:8c:86:d7:
                    65:9c:2b:6b:2a:7f:86:63:63:ab:91:39:02:f9:25:93:
                    f1:4a:1c:a4:fb:f0:cb:04:99:ef:84:bc:22:0b:0a:0e:
                    2b:a3:1a:9c:3a:71:2c:52:d0:c9:d5:94:18:3e:3c:d9:
                    ca:ae:34:42:a4:2e:9d:15:65:b4:7f:cc:e4:3c:cf:cf:
            EndData:
```

I.4. Detailed description of function Key Data Utility (Program DF054K)

you can manage your security keys with the program DF054K.
A VSAM dataset is used to manage/store the keys.

The program DF054K provides the following functions (PARM =);

1. **GENKEYS**
   Generate a key pair (2 sequential datasets)

2. **KEYS**
   Add key(s) to key management.

3. **LIST**
   List keys from the key management

4. **EXPT**
   Write keys from the key management to a sequential dataset.
   (see **IMPT**, too)

5. **IMPT**
   Write keys from a sequential dataset to the key management.
   (see **EXPT**, too)

6. **ADMN**
   Delete key(s) from the key management.

I.4.1. Function GENKEYS

Generate a key pair (2 sequential datasets)

DD-Statements:

KEYDATA	-	key management dataset (VSAM-Dataset)
SYSPRINT	-	program log file
KEYPARM	-	parameters

example:
generate a key pair:

```
//A        JOB
//GENKEYS  EXEC  PGM=DF054K,PARM='GENKEYS'
//STEPLIB  DD DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//SYSPRINT DD SYSOUT=*
//KEYDATA  DD DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
//KEYPARAM DD   *
 KSIZE=1024,KPERIOD=12M,                                          *
 KNAME='RVST.V2CS.NEW01.KEY'
/*
```

Parameters for GENKEYS:

Parameter	Description	Syntax
KNAME|KN	File name of private key + suffix .PR and file name of public + suffix .PU key.	Text; max. 32 characters. With Präfix (TSO-USERID): <keyname> Example: KNAME=KEY

		Result: P390A.KEY.PR P390A.KEY.PU Without Präfix: '<keyname>' Example: KNAME='KEY ' Result: KEY.PR KEY.PU
KFROM|KF	Begin of validity	TT.MM.JJJJ | YYYY-MM-DD
KTO|KT	End of validity	TT.MM.JJJJ | YYYY-MM-DD
KPERIOD| KP	Period of validity	d|D|t|T (Tag), m|M (month), j|J|y|Y (year) examples: 5m (5 month) or 1Y (1 year)
KTUSE|KE	Begin of validity is current date	YES|NO
KSIZE|KS	Key size	in Bits, max 2048; it has to be divisible by 8. Example: KS=768 or KSIZE=1024
KCREATOR| KC	Creator of key	Text; max. 50 characters.
KOWNER|KO	Owner of key	Text; max. 50 characters.

I.4.2. Function KEYS

Add key(s) to the key management

DD-Statements:

KEYDATA - key management dataset (VSAM-Dataset)
KEYPR000 - file name of private key
KEYPU000 - file name of public key
SYSPRINT - program Logfile
KEYPARM - parameters

- If you import a local key pair, you have to set the parameters UID and DDNAME (twice).
- If you import a public key of your partner, you have to set the parameters PID und DDNAME.

Examples:

Import your own key pair:

```
//A        JOB
//KEYSIMPT  EXEC  PGM=DF054K,PARM='KEYS'
//STEPLIB  DD  DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//KEYDATA  DD  DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
//KEYPR000 DD  DSN=P390A.V2CS.NEW01.KEY.PR,DISP=SHR
//KEYPU000 DD  DSN=P390A.V2CS.NEW01.KEY.PU,DISP=SHR
//SYSPRINT DD  SYSOUT=*
//KEYPARAM DD  *
UID=LOC,                                                        *
                                              DDNAME=KEYPR000,NEW
UID=LOC,                                                        *
```

```
                                                    DDNAME=KEYPU000,NEW
/*
```

Import a public key of your partner:

```
//A        JOB
//KEYIMPT   EXEC  PGM=DF054K,PARM='KEYS'
//STEPLIB  DD  DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//KEYDATA  DD  DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
//KEYPU000 DD  DSN=P390A.V2CS.NEW01.KEY.PU,DISP=SHR
//SYSPRINT DD  SYSOUT=*
//KEYPARAM DD  *
PID=R11,                                                              *
                                                    DDNAME=KEYPU000,NEW
/*
```

I.4.3. Function LIST

List keys from the key management

DD-Statements:

KEYDATA	-	key management dataset (VSAM-Dataset)
SYSPRINT	-	program logfile

```
//A        JOB
//KEYLIST  EXEC  PGM=DF054K,PARM='LIST,ALL'
//STEPLIB  DD  DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//KEYDATA  DD  DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
//SYSPRINT DD  SYSOUT=*
```

I.4.4. Function EXPT

Write keys from the key management to a sequential dataset.

DD-Statements:

KEYDATA	-	key management dataset (VSAM-Dataset)
KEYPRINT	-	sequential Output file
SYSPRINT	-	program logfile

```
//A        JOB
//KEYEXPT  EXEC  PGM=DF054K,PARM='EXPT,ALL'
//STEPLIB  DD DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//SYSPRINT DD SYSOUT=*
//KEYPRINT DD DSN=P390A.KEYPRINT,DISP=SHR
//KEYDATA  DD DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
```

I.4.5. Function IMPT

Write keys from a sequential dataset to the key management.

DD-Statements:

KEYDATA	-	key management dataset (VSAM-Dataset)
KEYIMPRT	-	sequential input file
SYSPRINT	-	program logfile

```
//A        JOB
//KEYSIMPT EXEC  PGM=DF054K,PARM='IMPT,ALL'
//STEPLIB  DD DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//SYSPRINT DD SYSOUT=*
//KEYIMPRT DD DSN=P390A.KEYPRINT,DISP=SHR
//KEYDATA  DD DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
```

I.4.6. Funktion ADMN

Delete key(s) from the key management

DD-Statements:

KEYDATA	-	key management dataset (VSAM-Dataset)
SYSPRINT	-	program logfile
KEYPARM	-	parameters KEYID=Id of Key which is to delete (hex value)

```
//A        JOB
//KEYDEL  EXEC  PGM=DF054K,PARM='ADMN'
//STEPLIB  DD DSN=P390A.V2CS.NEW01.LOAD,DISP=SHR
//*
//SYSPRINT DD SYSOUT=*
//KEYDATA  DD DSN=P390A.V2CS.NEW01.KEYS,DISP=SHR
//KEYPARAM DD   *
KEYID='A274F096',DEL
/*

This job remove this key from key management.

Info:       Version:        1  (0x01)
            Serial Number:  1  (0x01)
            Mode:           1  (0x01)
            Created At:     Jul 10 10:32:27 2003 UTC
            Created By:     unknown
            Owner:          unknown
            KeyPair ID:     a2:74:f0:96

Validity:   Not Before:    Jul 10 10:32:25 2003 UTC
            Not After:     Oct 10 10:32:25 2003 UTC

Subject Key Info:
            Public Key Algorithm: rsaEncryption
            Exponent:       65537 (0x10001)
            KeyData:
                    ac:a4:30:f7:7c:9f:47:cf:0d:1d:9b:ce:66:fa:4e:b9:
                    80:9a:c4:83:fa:5e:93:97:04:2f:8c:0f:b8:5b:d3:cb:
                    fb:90:b3:6d:51:a4:6d:6a:65:52:9d:84:4e:68:fa:a1:
                    7a:fe:22:5d:d9:5f:e2:2a:b3:35:3d:4c:c5:8c:86:d7:
                    65:9c:2b:6b:2a:7f:86:63:63:ab:91:39:02:f9:25:93:
                    f1:4a:1c:a4:fb:f0:cb:04:99:ef:84:bc:22:0b:0a:0e:
                    2b:a3:1a:9c:3a:71:2c:52:d0:c9:d5:94:18:3e:3c:d9:
                    ca:ae:34:42:a4:2e:9d:15:65:b4:7f:cc:e4:3c:cf:cf:
            EndData:
```

I.5. Return codes of DF054K

0	NORMAL (OK) Note: Successfully executed.
4	KEY VALUE NO DDNAME, DEFAULT USED Note: DDNAME for key dataset wasn't found. The default value KEYIN is used.
8	WRONG PARAMETER Note: At least 1 parameter is wrong.
12	ERROR DURING READ INPUT PARAMETER
16	ERROR DURING WRITE NEW KEY INTO KEY DATASET
20	ERROR DURING WRITE NEW KEY INTO KEY DATASET, DUPLICATE KEY Note: Key-Id already exists
24	ERROR DURING DELETE A KEY FROM KEY DATASET
28	ERROR DURING READ KEY DIRECT FOR DELETE Note: Can't read key from key management. Deletion isn't possible.
32	ERROR DURING READ KEY DIRECT Note: Can't read key from key management. Key doesn't exist.
33	ERROR DURING READ A BEST KEY FUN=S Note: Can't get key for encryption. (best key)
34	ERROR DURING READ A BEST KEY FUN=R Note: Can't get key for restoring. (best key)
36	ERROR DURING UPDATE AN EXISTING KEY Note: key doesn't exist
40	ERROR DURING KEYDS PROCESSING, NO FLAG
41	ERROR DURING READ BEST KEY PROCESSING, NO FLAG FUN=S
42	ERROR DURING READ BEST KEY PROCESSING, NO FLAG FUN=R
43	ERROR DURING IMPORT KEYS, NO FLAG
44	ERROR DURING PREPARING KEY DATASET UPDATE
48	ERROR DURING PARAMETER PROCESSING
52	ERROR DURING KEY DS OPEN PROCESING
56	ERROR DURING LIST DS OPEN PROCESING
60	USER ID PARAMETER NOT COMPLETE
64	ERROR DURING READ KEYID, NO HEX VALUES
68	ERROR DURING READ KEYID, NO HEX SYNTAX
72	ERROR DURING READ KEYID, LENGTH ERROR
76	ERROR DURING KEY FILE OPEN PROCESSING
80	ERROR DURING UPDATE OF KEY DATA SET
84	ERROR DURING PREPARING UPDATE, NOT ALL PARAMETERS

88	NOT VALID KEY FOUND
95	KEYIMPRT FILE NOT DEFINED Note: DD-Statement KEYIMPRT doesn't exist.
96	KEYPARAM FILE NOT DEFINED Note: DD-Statement KEYPARAM doesn't exist.
97	KEYDATA FILE NOT DEFINED Note: DD-Statement KEYDATA doesn't exist.
98	KEYPRINT FILE NOT DEFINED Note: DD-Statement KEYPRINT doesn't exist.
99	SYSPRINT FILE NOT DEFINED Note: DD-Statement SYSPRINT doesn't exist.

I.6. DF054K Messages:

This chapter contains a short description of the messages of program DF054K. It also gives some hints for error reasons and error corrections.

CSUTL0I * PROCESSING OF KEY MANAGEMENT STARTED *** '**

The message occurs during start. Protocol message only.

CSUTL1P * KEY DATA SUCESSFULLY READ, STORE STARTS **'**

The message occurs after new security key data are read sucessfully from the KEYIN (or DDNAME) input. Protocol message only.

CSUTL2P KEY UPDATE FUNCTION: XXXXXXXXX 25 CHAR XXXXXXX'

reserved

CSUTL3E ERROR DURING 1...+....1....+....2....+....3...'

The message describes an error. The space may contain one of the following error reasons:

PREPARING KEY DATA SET UPDATE

Summary message, above this message the error reason will be shown.

PARAMETER PROCESSING

The message occurs during start. Protocol message only.

KEY DS OPEN PROCESSING

The Key Data data set (RVS.KEY.DS) could not be opened. Look for VSAM return code in the system message protocol.

KEY VALUE OPEN PROCESSING

The Security Key value data set (user.KEYDS) could not be opened. Look for correct DDNAME parameter or KEYIN DD statement.

LIST DS OPEN PROCESSING

The message output data set could not be opened. Look for correct definition of the job.

STATION PARM NOT COMPLETE

The message could occur if a parameter set is not complete but end of data is indicated. Action terminated, the key will not be written into the Key Data data set.

READ KEYID,NO HEX VALUES

The KEYID parameter contains other characters than 0,...9, A, B, C, D, E, and F. Action terminated, the key will not be written into the Key Data data set.

READ KEYID,NO HEX SYNTAX

The KEYID parameter is not enclosed in apostrophes. Action terminated, the key will not be written into the Key Data data set.

READ KEYID, LENGTH ERROR

The KEYID parameter has not exactly 8 characters. Action terminated, the key will not be written into the Key Data data set.

READ INPUT PARAMETER

No valid parameter could detect in the input line. Action terminated, the key will not be written into the Key Data data set.

UPDATE OF KEY DATA SET

Summary message, above this message the error reason will be shown.

PREPARING UPDATE: NOT ALL PARAMS

The message could occur if a parameter set is not complete but end of data will be indicated. Action terminated, the key will not be written into the Key Data data set.

WRITE NEW KEY INTO KEY DATASET

The Key Data data set write module detects an error. Register 15 contains the write return code in byte 2 and 3 and the program return code in byte 0 and 1.
Write return codes may be:

```
0  - normal end.
4  - record not found (update).
8  - record not found (read)
12 - no space (new)
16 - duplicate key (caused the message below)
20 - reserved
64 - logical error
68 - physical error during VSAM
```

Action terminated, the key will not be written into the Key Data data set.

WRITE xx-KEY: DUPLICATE KEY

The Key Data data set write module detects an error with return code 16. (see above)
The xx may be

PU	for a public key
PR	for a private key.

Action terminated, the key will not be written into the Key Data data set.

DELETE A KEY FROM KEY DATASET

Summary message, above this message the error reason will be shown.

READ KEY DIRECT FOR DELETE

The Key Data data set write module detects an error during 'delete' processing. Action terminated, the record will not be deleted.

READ A KEY DIRECT

The Key Data data set write module detects an error during 'read' processing. Action terminated.

KEYDS PROCESSING, NO FLAG

The Key Data data set read module detects. Action terminated.

CSUTL4P * KEY SUCESSFULLY xxxxxxxx**

The message finishes the xxxxxxxx action.
The xxxxxxxx may be

```
ADDED  ***
DELETED ***
READ DIRECT ***
```

Protocol message only.

CSUTL5P 1...+....1....+....2....+....3....+....4

Protocol message only. The space may contain one of the following error reasons:

KEY VALUE NO DDNAME, DEFAULT USED

Indication that the default DDNAME will be used.:

CSUTL7P SID=... KEYID=..... DDNAME=XXXXXXXX
CSUTL7P DSN=

Protocol message only. The input parameter value will be written to the output.

CSUTL8P * KEY DATASET SUCESSFULLY UPDATED**

Summary message. Protocol message only.

CSUTL9I * PROCESSING OF KEY MANAGEMENT ENDED *****

The message occurs during end processing. Protocol message only.

CSUTLAP 1...+....1....+....2....+....3....+....4....+....5....+....6....+....7

Protocol message only. The space may contain one of the following error or information reasons:

DELETE FUNCTION – NO KEY(S) FOUND

During the execution of the Key delete function was no found keys for delete.

********** PUBLIC KEY **********

Summary message. Protocol message only.

PUBLIC KEY NOT FOUND *********

During the execution of the Key function was no public key found.

********* PRIVATE KEY **********

Summary message. Protocol message only.

PRIVATE KEY NOT FOUND *********

During the execution of the Key function was no private key found.

CSUTLBI * PROCESSING OF LIST MANAGEMENT STARTED ***

The message occurs during list function start processing. Protocol message only.

CSUTLCI * PROCESSING OF LIST MANAGEMENT ENDED ***

The message occurs during list function end processing. Protocol message only.

CSUTLDI * CSERUTIL --- KEY MANAGEMENT PROGRAMM ***

The message occurs during start. Protocol message only.

CSUTLEP PROBAID=

The identification of release level of program.

CSUTLFI *--------B E G I N---O F---K E Y--------***

The message occurs during list of key start processing. Protocol message only.

CSUTLFI *----------E N D---O F---K E Y----------***

The message occurs during list of key end processing. Protocol message only.

CSUTLGP 1...+....1....+....2....+....3....+....4....+....5....+....6....+....7

The message occurs during key generation – list of input parameters. Protocol message only.

I.7. Key Data record description

This chapter contains the KEYRECORD description in terms of an assembler space description. It would be helpful for interpretation of listing of the RVS.KEY.DS. Remember that the data will be compressed and therefor not readable.

```
......   DSECT
*************************************************************************
*        CAUTION : THIS RECORD HAS ALWAYS TO START AT THE LAST          *
*                  HALFWORD-BOUNDARY WITHIN A DOUBLEWORD                *
*************************************************************************
         CNOP  6,8
KEYRECRD EQU   *
KEYSTART EQU   *
*************************************************************************
*                                                                       *
*       RVS-KEYWORDS IN LOGICAL ORDER (KEY OF RECORD)                   *
*                                                                       *
KEYTYPE  DS    CL2    TYPE OF KEY
*
*        PR - PRIVATE KEY
*        PU - PUBLIC KEY
*
         ORG   *-1
KEYSTYPE DS    C      SUBTYPE OF THE KEY (R=PRIVATE, U=PUBLIC)
KEYSID   DS    CL3    STATION
         DS    CL5    RESERVED FOR LATER USE
KEYID    DS    CL4    KEY IDENTIFIER (NORMALY A HEX VALUE)
KEYRES   DS    CL4    RESERVED
KEYDSN   DS    CL44   KEY NAME
KEYDATE  DS    CL4    DATE
KEYTIME  DS    CL4    TIME
KEYKEYEND EQU  *
KEYKEYL  EQU   *-KEYTYPE
KEYCNTL  DS    CL1    CONTROL BYTE
KEYCNT1Y EQU   X'80' 1... .... KEY DATA ARE COMPRESSED
KEYCNT1N EQU   X'00' 0... ....             - UNCOMPRESSED
KEYAREA  EQU   *
         DS    CL4018
* FOR A COMPRESSED KEY RECORD THE FIRST 5 BYTES OF THIS AREA ARE:
*        DS    H      LENGTH OF UNCOMPRESSED KEY RECORD
*        DS    H      NUMBER OF COMPRESSED SEGMENTS
*              DATA   FOLLOWS
WORKAREAL EQU  *-KEYTYPE
DATAAREAL EQU  *-KEYAREA
KEYREND  EQU   *            END OF RECORD
```

This page will be intentionally empty.

Index

&DAY ... 151
&DSN ... 151
&DSNNEW ... 151
&JOBDSN ... 151
&MEM ... 151
&RUSER ... 151
&SID ... 151
&TIME ... 151
&VOL ... 151
ACCESMET ... 83, 89, 97, 101, 105, 107, 113
ACCOUNT ... 73, 74
accounting information
  description ... 227
ACCT ... 73
ACEXIT ... 50
ACME ... 83, 89, 97, 101, 105, 107, 113
ACTM ... 83, 89, 113
ACTMODE ... 83, 89, 113
ACTOFST ... 51
ACTOPTS ... 89, 113
ACTREL ... 51
AD ... 74
ADDEVICE ... 114
ADDR ... 74, 114
ADDRESS ... 74, 114
ADDV ... 114
ALIASSID ... 74
APPLID ... 51
ASID ... 74
AUTOACT ... 90, 114
AUTODIAL ... 74
automatic jobstart
  JCL for failing - ... 151
BACKUP ... 74, 163
BCKP ... 74
BFPOOLRL ... 51
BFPOOLSZ ... 51
BSCUSE ... 51, 52, 56, 59
CNTL ... *see Tables Dataset / Start Parameter*
CNTLMSG ... *see Messages / CNTLMSG*
Code Translation ... 153
Commands
  automatical execution ... *see Tables Dataset / START*
COMPRESS - CNTL ... 52
COMPRESS – Station general ... 74, 75
COMPRESS -OFTP ... 93
CONTALG ... 84
Controldataset
  Creation ... 39
  Deleting of old entries ... 146
  Description ... 224
  General ... 31
  Saving and Recovery ... 147
CONVTYP ... 101
CREDIT ... 93
DBID ... 84
DDEVTYP ... 52
DEMIG ... 52
DF054K ... 263
DF067A ... 37
DF072A00 ... 147
DF073A00 ... 148
DF076A ... 239
DF078A ... 143
DF079B00 ... 146
DIALINTF ... 114
DIALNUM ... 84
DIALOPT2 ... 77
DIALOPT3 ... 77
DIALOPTS ... 76
DIRECTN ... 93
DNUM ... 84
DOPT2 ... 77
DOPT3 ... 77
DOPTS ... 76
DOPTS# ... 77
DOPTSy ... 77
DQPERM ... 52
DSPLEVEL ... 53
DSPTI ... 53
EERPEXTR ... 78, 93
Exits ... see User Exits
EXPDT ... 53
EXTERNAL COMPRESSION ... 179
EXTERNAL SECURITY ... 180
Feature Architecture ... 177
FERS ... 107
FHF ... 107
FHN ... 108
FIRSTLVL ... 54
FPR ... 108
FPS ... 108
FPT ... 108
FRN ... 109
FRS ... 109
FSS ... 109
FTP ... 84
FTP Job ... *see Tables Dataset / FTPRVSJC*
FTPERESP ... 107
FTPHFILE ... 107
FTPHNAME ... 108
FTPMAX ... 54
FTPPASS ... 108
FTPPOLTI ... 54
FTPPORT ... 108
FTPPREF ... 54, 108
FTPREFN ... 109
FTPRESP ... 109
FTPRVSJC ... *see Tables Dataset / FTPRVSJC*
FTPSESS ... 109
FTPUID ... 109
FTPUSE ... 55
FUID ... 109
Generations
  EP ... 13, 15, 16
  for BSC ... 13
  for FTP component ... 26
  for LU 6.2 component ... 25
  for remote operating function ... 29
  for rvsWIN stations ... 29

for SNA component ... 17
for TCP/IP component ... 26
for X.25 component ... 19
IODEVICE ... 13, 14
Logmode table ... 17
NPSI ... 22
Switched Major Node ... 20
HLDRESET ... 55
How to use EXTERNAL SECURITY ... 179, 180, 181
IDENQ ... 85
IDEXIT ... 55
Installation Tests ... 159
Interlink ... 61, 66
INTRDR ... 142
ISPF Panels
Authorization ... 43
Installation ... 41
JFP ... 55
JOBCARD ... *see Tables Dataset / Jobcard*
JOBCARDF ... 142
JOBCARDS ... see Tables Dataset / JOBCARDS
JSSNAME ... 55
JSSSYSID ... 56
KD ... 143
KEY ... 142
Key Data data set
general ... 32
Key Data data set
General ... 263
Key Data dataset
Creation ... 45, 263
KEYDATA ... 142
KEYDELET ... 263
KEYEXPRT ... 263
KEYIMPAL ... 263
KEYIMPPU ... 263
KEYIMPRT ... 263
KEYLIST ... 263
KEYSDEF ... 263
KEYSGEN ... 263
KEYSINIT ... 263
LBLKSIZE ... 85, 90, 97, 101, 105, 114
Licencekey ... 12
LINE ... 115
LINETYPE ... 86, 115
Logdataset
Creation ... 40
General ... 32
LONGID ... 86
LSIZE ... 85, 90, 97, 101, 105, 114
LT ... 86, 115
LU ... 90, 102
LU62APPL ... 56
LU62MAX ... 56
LU62MODE ... 56, 102
LU62USE ... 56
LUNAME ... 90, 102
MAXSVC ... 57
Messages
CNTLMSG ... 134, 141
Control of - ... 133
MONITOR ... 159
MSGID ... 57, 141
MSGPERM ... *see Tables Dataset / MSGPERM*
ODETID ... 78, 94
ODID ... 57
OID ... 78, 94
OPTIONS ... 79
OPTS ... 79
OWNOID ... 94
PAD1 ... 98
PAD2 ... 98
PDF0001A ... 159
PDF0002A ... 143
PDF0009A ... 146
PDF0014A ... 147
PDF0015A ... 148
PDS-Transfer ... 178
PFKEYS ... *see Remote Operating / PFKEYS*
PHONE ... 79, 115
PPROF ... 86
PROGPROF ... *see Tables Dataset / Program Profile Table*
PSIZE ... 57, 100
RECVPW ... 86, 90, 94
Remote Operating
PF Keys ... 139
PFKEYS ... 142
Using ... 255
REPLY ... 58
Requirements
Hardware ... 11
Software ... 11
RMOPAPPL ... 58
ROUT ... 58
RPW ... 86, 90, 94
RTAPEJC ... *see Tape Dataset / JCL for Copy Job*
RVSDUMP ... 141
RVSLOG ... 143
SCC ... 58
SCNL ... 86
SECURITY - CNTL ... 58
SECURITY - Station ... 79, 82
Security Library dataset
Installation ... 45
SENDPW ... 86, 90, 94
SESPROF ... 91
SESSIONS ... *see Tables Dataset / Sessions Table*
SESSNUM ... 102
SFIDEXTR ... 94
SFIDEXTS ... 95
SID ... 81
SLAVE ... 115
SMF ... 59
SMSDATCL ... 59
SMSMNGCL ... 59
SMSSTOCL ... 59
SNAUSE ... 59
SPCLOGIC ... 95
SPEED ... 86, 115
SPROF ... 91
SPW ... 86, 91, 94
SSIDEXTR ... 95
SSIDEXTS ... 95

STAPEJC .....*see Tape Dataset / JCL for Copy Job*
START .....*see Tables Dataset / START*
Start Procedure 141
example 237
STATION 59
STATIONS .....*see Tables Dataset / stations table*
statistics
general 229
legend 234
line activity 233
station activity 230
STEPLIB 141
STORAC 60, 61
SUBCHANL 86
SYNCLVL 102
SYSOUTJC .....*see Tables Dataset / SYSOUTJC*
SYSWTO 135, 141
Tables Dataset
CNTLMSG 134
FTPRVSJC 131, 142
general 32, 33, 34
JFPJCL 151
Jobcard 129, 142
JOBCARDF 131
JOBCARDS 129
Modification 40
MSGPERM 136
Program Profile 86, 259
Program Profile Table 123
Sessions Table 125, 142
START 137, 141
Start Parameter 47, 141
stations table 71
stationstable 142
SYSOUTJC 130, 142
TRNTABLE 153
Tape Dataset
JCL for Copy Job 129, 142
TCPIPADR 105
TCPLOCAD 60, 65, 66
TCPMAX 60
TCPNAME 60
TCPPORT 61, 65, 66, 106
TCPPROD 61
TCPSESS 106
TCPSTKID 61, 66
TCPUSE 61
TIME 62
TPN 102
Trace 163
BSC 166
FTP 174
LU 6.2 170
SNA 168
Start and Stop 165
TCP/IP 172
TRACE 62
Transmissions
Overview about - 143
TRNTABLE 142
TSTAMP 62
TYPE 91, 95, 98, 109
UCBNAME 87, 115
UCC 62
UID 91
UNIT 62, 63
User Exits
Accounting 213
DFUX001 205
DFUX002 211
DFUX003 214
Identification 217
OFTP 221
USERID 91
VIA 111, 117
VOLUME 63
VWACC 63
VWJOBC 63
WSIZE 63, 100
X25CUD 98
X25FAC 99
X25GROUP 64
X25NUM 99
X25PSIZE 99
X25SESS 100
X25TOT 64
X25USE 64, 66
X25WSIZE 100
XAPPLID 64
XBFSIZE 64
XLUNAME 65
XNUMBER 65
XNUMCHCK 65, 98
Y DD-statement 142